TOSHIBA DVD VIDEO RECORDER / VIDEO CASSETTE RECORDER D-VR16SB

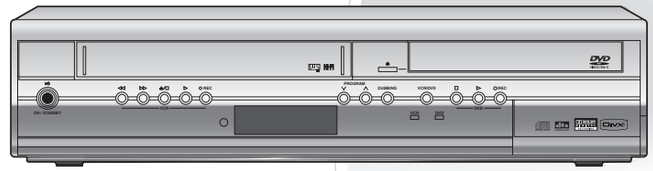
TOSHIBA

DVD VIDEO RECORDER / VIDEO CASSETTE RECORDER

D-VR16SB

OWNER' S MANUAL

OPERATIONS GUIDE



TOSHIBA

Printed in China

1VMN22711 / E9BA1BD ★★★★★

© 2006 Toshiba Corporation

Precautions

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The important note is located on the rear of the cabinet.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Laser Safety

This unit employs a laser. Only a qualified service personnel should remove the cover or attempt to service this unit, due to the possibility of eye injury.

CAUTION: USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED. DO NOT STARE INTO BEAM.

LOCATION: INSIDE, NEAR THE DECK MECHANISM.

Power Supply

The power supply is connected and the unit is live when the mains cable is plugged into a 220-240 V~, 50 Hz AC outlet. To operate the unit, press [I/⏻ ON/STANDBY].

WARNING: LIVE PARTS INSIDE. DO NOT REMOVE ANY SCREWS.

Caution

1. Do not attempt to open the cabinet. There are no parts inside you can service. Refer all servicing to qualified service personnel.
2. Slots and openings in the cabinet at the sides and underneath are provided for ventilation. To ensure reliable operation and to protect the unit from overheating, these openings must not be blocked or covered.
   Avoid installation in enclosed spaces such as bookcases unless suitable ventilation is provided.
3. Keep the unit away from radiators and other heat sources.
4. Avoid use near strong magnetic fields.
5. Do not push objects of any kind into the unit through the cabinet slots or openings as they could touch electrically live parts or short circuit parts resulting in a fire or electric shock.
6. Do not spill liquid on the unit. If liquid is spilled and enters the unit, consult qualified service personnel.
7. Do not stand the unit vertically. Use the unit in a horizontal (flat) position only.
8. Before attempting to operate the unit, make sure that the timer recording mode is off.
9. This product is in Stand-by mode when turned off while the mains cable is connected.
10. Do not place any combustible objects on the device (candles, etc.).
11. Before moving the unit, be sure to remove any discs and unplug the mains cable from the AC outlet.
12. Disconnect the mains plug to shut off when find troubles or not in use.
13. The mains plug shall remain readily operable.
14. Read both manual instructions to ensure correct and safe installation and interconnection of the unit in multimedia systems.
15. Keep the distances 20 cm around apparatus of ventilation openings.

Declaration of Conformity

This product complies with the requirement of the directives

EMC-Directive:	89 / 336 / EEC
Low Voltage Directive:	73 / 23 / EEC
CE Marking:	93 / 68 / EEC

We declare that the following product:

DVD VIDEO RECORDER / VIDEO CASSETTE RECORDER, Model D-VR16SB

is in compliance with following Regulations.

EN55013: 2001+A1:2003, EN55020: 2002+A1:2003,
EN61000-3-2: 2000, EN61000-3-3: 1995 + A1: 2001
EN60065: 2002
EN60825-1 Edition 1.2: 2001

CE

A NOTE ABOUT RECYCLING

This product's packaging materials are recyclable and can be reused. Please dispose of any materials in accordance with your local recycling regulations.

This product consists of materials which can be recycled and reused if disassembled by a specialised company.

Batteries should never be thrown away or incinerated but disposed of in accordance with your local regulations concerning chemical wastes.

Make your contribution to the environment!!!

- Exhausted batteries do not belong in the dustbin.
- You can dispose of them at a collection point for exhausted batteries or special waste.
- Contact your council for details.

For Customer Use:
Carefully read the Model No. and Serial No. located at the back of the unit and enter the information below. Retain this information for future reference.
Model No. _____
Serial No. _____

Connection to Power

Before Switching on make sure that the voltage of your electricity supply is the same as that indicated on the rating plate.

Mains Cord

This appliance may be fitted with a non-rewireable plug. If it is necessary to change the fuse in a nonrewireable plug the fuse cover must be refitted. If the fuse cover is lost or damaged, the plug must not be used until a replacement available from the appliance manufacturer is obtained.

It is important that the colour of the replacement fuse cover corresponds with the rating marking on the base of the plug.

If the plug has to be changed because it is not suitable for your socket, or becomes damaged, it should be cut off and an appropriate plug fitted following the wiring instructions below. The plug removed must be disposed of safely as insertion into a 13A socket is likely to cause an electrical hazard.

For your own safety read the following instructions carefully before attempting to connect this unit to mains.

The wires in this mains lead are coloured in accordance with the following code:

BLUE=NEUTRAL, BROWN=LIVE

Important

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:-

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

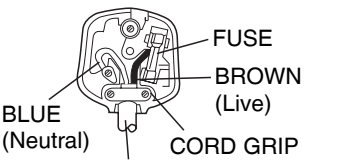
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

No connection is to be made to the earth terminal of the plug.

If a 13 Amp (BS 1363) Plug is used, a 3 Amp Fuse must be fitted, or if any other type of Plug is used a 3 or 5 Amp Fuse must be fitted, either in the Plug or Adaptor, or on the Distribution Board.

Mains Supply:220 - 240V~ 50 Hz - AC only

Do not make any connection to the larger pin marked with the letter "E" or by the symbol ⏚ or coloured green or green and yellow.



Installation Location

For safety and optimum performance of this unit:

- Install the unit in a horizontal and stable position.
- Do not place anything directly on top of the unit.
- Do not place the unit directly on top of the TV.
- Shield the unit from direct sunlight and keep away from sources of intense heat. Avoid dusty or humid locations. Avoid locations with insufficient ventilation for suitable heat dissipation. Do not block the ventilation holes on the sides of the unit. Avoid locations subject to strong vibration or strong magnetic fields.

Avoid the Hazards of Electrical Shock and Fire

- Do not handle the power cord with wet hands.
- Do not pull on the mains cable to disconnect it from AC outlet. Grasp it by the plug.
- If water is spilled on the unit accidentally, unplug the mains cable immediately and take the unit to an authorized service centre for servicing.

Moisture Condensation Warning

Moisture condensation may occur inside the unit when it is moved from a cold place to a warm place, after heating a cold room, or under conditions of high humidity. Do not use the unit for at least 2 hours to allow the inside to dry.

About Copyright

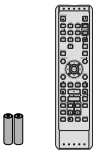
Unauthorized copying, broadcasting, public performance and lending of discs are prohibited. This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

Notice for the Progressive Scan Outputs

Consumers should note that not all high definition television sets are fully compatible with this product and may cause artifacts to be displayed in the picture. In case of picture problems with 525 or 625 progressive scan output, it is recommended that the user switch the connection to the 'standard definition' output. If there are questions regarding your TV set compatibility with this 525p or 625p DVD recorder, please contact our customer service centre.

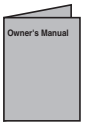
Accessories Supplied

- Remote control with two R6 (AA) batteries



- RF cable

- Owner's Manual



- Quick Guide

- Registration card

Maintenance

■ CLEANING THE UNIT

- Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol, spirits, ammonia or abrasive.

■ CLEANING DISCS

- If a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the centre out. Do not wipe in a circular motion.
- Do not use solvents such as benzine, thinners, commercially available cleaners, detergent, abrasive cleaning agents or antistatic spray intended for analogue records.

■ DISC HANDLING

- Handle the disc by its edge so that fingerprints and dust do not adhere to the disc surfaces.
- Always store the disc in its protective case when it is not used.

■ SERVICING

- If the unit becomes inoperative, do not try to correct the problem by yourself. There are no user serviceable parts inside. Turn the unit off, unplug the mains cable, and consult your dealer or an authorized service centre.

■ CLEANING THE DISC LENS

- If the unit does not perform correctly even though you have referred to “Troubleshooting” and the relevant sections in the Owner’s Manual, the laser optical pickup unit may be dirty. Consult your dealer or an authorized service centre for inspection and cleaning of the laser optical pickup unit.

■ AUTO HEAD CLEANING

- Automatically cleans video heads as you insert or remove a cassette, so you can see a clear picture.
- Playback picture may become blurred or interrupted while the TV programme reception is clear. Dirt accumulated on the video heads after a long period of use, or the usage of rental or worn tapes can cause this problem. If a streaky or snowy picture appears during playback, the video heads in the unit may need to be cleaned.

1. Please visit your local Audio / Video store and purchase a good quality VHS Video Head Cleaner.
2. If a Video Head Cleaner does not solve the problem, please consult your dealer or an authorized service centre.

Notes

- Remember to read the instructions along with the video head cleaner before use.
- Clean video heads only when problems occur.

Manufactured under license from Dolby Laboratories. “Dolby” and the double-D symbol are trademarks of Dolby Laboratories.

Dolby Digital Recording
“Dolby® Digital Recording enables consumers to record high-quality video with stereo sound on recordable DVD discs. The technology, when utilized instead of PCM recording, also saves recordable disc space, allowing for higher video resolution or extended recording time on each DVD. DVDs created using Dolby Digital Recording will play back on all DVD-Video players.”

Note:
This is true when the players are compatible with actual recordable DVD discs.

“DTS” and “DTS Digital Out” are trademarks of Digital Theater Systems, Inc.

DivX, DivX Certified, and associated logos are trademarks of DivX, Inc. and are used under license.

Table of contents

Introduction

■ **Precautions** 2
■ **Table of contents** 6
■ **Features** 8
■ **Choosing a disc** 10
■ **Index to parts and controls** 15
■ **Preparation of the remote control** 21
■ **On Screen menu** 23

Connections

■ **Connections** 26
Using the S-VIDEO OUT or the COMPONENT VIDEO OUT jacks and the AUDIO OUT jacks (only for DVD) 27
Connecting to external equipment 27
Digital audio for better sound quality 28
After you have completed connections 28

Basic Setup

■ **Initial setting** 30
■ **Channel setting** 31
Auto tuning 31
Manual tuning 31
To select a channel 32
To skip a Preset channel 32
Move 32
■ **Setting the clock** 33
Auto Clock Setting 33
Manual Clock Setting 33
■ **Selecting the TV aspect ratio** 35

Recording

■ **Information on DVD recording** 38
Information 38
Recording Mode 38
Restrictions on recording 39
Information on copy control 39
Making discs playable in other DVD player (Finalise) 39
■ **Selecting the Recording format** 40
Choosing the recording format of a blank disc 40
Reformatting a disc 42
Setting Auto Chapter 42
Selecting the Sound mode 43
Recording Audio Select (XP) 43
Setting External Input Audio 44
Setting Bilingual Recording Audio 44
■ **Basic recording** 45
■ **One-touch Timer Recording** 47
■ **Timer Recording** 49
Checking, cancelling, or correcting the timer programming information 53
If the timer programming did not complete correctly 54
PDC (Programme Delivery Control) 54
Hints for Timer Recording 55
Satellite Link 56
■ **Settings for an external equipment** 58
Connection to an external equipment 58
Recording from an external equipment 59
■ **Dubbing Mode** 61
Dubbing Mode 61
■ **Setting disc protection** 62
■ **Finalising discs** 63
Auto finalise 65

Playback

■ **Basic playback 68**
Playing back a DVD-RW / DVD-R **68**
Playing back a DVD-VIDEO / Video CD / CD **71**
Playing back an MP3 / JPEG disc **72**
Playing back a DivX® disc **74**
Playing back discs using the Disc menu **76**
Playing back discs using the Title menu **76**
PBC function for Video CDs **76**
Playing back a Video CD using the menu **77**
Cancelling and Recalling the PBC function **77**
Pause **77**
Step by step playback **77**
■ **Further playback. 78**
Resume Playback **78**
Rapid Playback **78**
Skipping TV commercials during playback **78**
Fast forward / Fast reverse **79**
Slow forward / Slow reverse **79**
■ **Special playback. 80**
Zoom **80**
Marker Setup **80**
Chasing Playback during Recording **81**
Simultaneous Playback and Recording **81**
Searching by Title, Chapter or Track **82**
Searching by Time **83**
Repeat Playback **83**
Random Playback **84**
Program Playback **84**
Slide Show **85**
DivX® VOD **85**
■ **Selecting the format of audio and video 86**
Switching subtitles **86**
Switching audio soundtrack **86**
Switching virtual surround system **87**
Switching camera angles **88**
Reducing block noise **88**

Editing

■ **Information on disc editing 90**
Guide to a title list **90**
Edit the recorded disc **90**
Editing discs **91**
Notes for deleting titles **91**
■ **Editing discs 92**
Deleting titles **92**
Editing title names **94**
Guide to edit title name **96**
Adding or deleting chapter marks **97**
Setting pictures as thumbnails **99**
Deleting parts of titles **101**
Dividing a title **103**
Combining titles **104**
Adding titles to a Playlist **106**
Erasing all Playlist **108**
Setting or releasing the title protection **110**
Setting or clearing all the chapter marks in one title **112**

Function Setup

■ **Tour of the Setup menu 116**
■ **Function Setup 118**
Language setting **118**
Display setting **119**
Audio setting **120**
Parental setting **122**
Still Mode setting **124**
TV system setting **124**
Video Out setting **125**

VCR functions

■ **VCR functions 128**
Playback **128**
Recording and One-touch Timer Recording (OTR) **128**
Search **129**
Other operations **130**
Hi-Fi Stereo Sound System **130**

Others

■ **Troubleshooting 132**
■ **Language code 137**
■ **Glossary 138**
■ **Specifications 140**

Features

This unit not only plays back DVDs, CDs and VHS tapes but also offers features for you to record on DVD discs and edit them after that. The following features are offered with this unit.

Recording

The unit is compatible with DVD-RW discs which are recordable repeatedly, and DVD-R discs which are recordable only once.
Also, this unit allows you to record to the video cassette tape. You can choose either one for your convenience.

DVD mode | VCR mode

■ **Recording up to 8 programmes:**
You can programme the unit to record up to 8 programmes, up to a month in advance. Daily or weekly programme recordings are also possible.

■ **One-touch Timer Recording:**
You can set your required recording time easily. Every time [REC ●] (DVD / VCR) is pressed during recording, the recording time will be increased by 30 minutes up to 8 hours. The recording automatically stops when the recording time you set is finished.

■ **Dubbing mode**
You can copy a DVD disc to a videotape or copy a videotape to a DVD disc. This function will be available only if the DVD disc and the videotape are not copy protected.

■ **Left channel stereo recording**
This unit can record the sound of the Left channel monaural input as Left and Right channels automatically (available only for AV3 jacks on the front panel).

DVD mode

■ **Automatic Chapter marker setting:**
Chapter markers will be added to recordings as you set them in the Setup menu before starting to record.

■ **Automatic Title menu making:**
The unit creates Title menus automatically when finalising discs.

■ **Automatic Playlist making (VR mode):**
The unit creates a Playlist automatically after recording.

■ **Automatic finalising (Video mode):**
You can finalise discs automatically at the end of the disc space if you set this in the Setup menu.

Playback

DVD mode

■ **Theatre surround sound:**
When the unit is connected to an amplifier or a decoder compatible with Dolby Digital or DTS, you can enjoy theatre-quality surround sound from discs recorded with the surround sound system.

■ **Chasing Playback during Recording and Simultaneous Playback and Recording:**
You can play the already recorded part of the current recording or another title during recording.

■ **Quick search:**
You can easily find the part you want to watch using the search function. Search for a desired point on a disc by title, chapter or time.

■ **Playback from Original or Playlist (VR mode):**
You can play back titles using either the Original list or a Playlist.

■ **Virtual Surround System:**
You can enjoy stereophonic space through your exciting 2 channel stereo system.

■ **Playing back an MP3 disc:**
You can enjoy MP3 files which are recorded on CD-R/RW.

■ **JPEG Picture Viewer:**
JPEG files formatted on CD-R/RW can be played.

■ **Reproducing DivX® data**
You can enjoy DivX® files which are recorded on DVD-R/RW or CD-R/RW.
- Official DivX Certified™ product.
- Plays DivX®5, DivX®4, DivX®3, and DivX®VOD video content (in compliance with DivX Certified™ technical requirements).

VCR mode

■ **Quick search for what you want to watch**
You can easily find the part you want to watch using the Index or Time search functions. An index mark will be assigned at the beginning of each recording you make. For Time search function, you can go to a specific point on a tape by entering the exact amount of time you wish to skip.

Editing

DVD mode

■ **Set / clear chapter markers (VR mode):**
You can easily add chapter markers anywhere in your recordings for easy editing.

■ **Making your own Playlist (VR mode):**
While the Original list remains unchanged, you can edit titles as you prefer and create your own Playlist.
Edit title names
Set thumbnail pictures
Set / clear chapter markers
Divide / combine titles
Delete parts of titles

■ **Protecting titles (VR mode):**
To avoid accidental editing or erasing of titles, the protect function is useful when set to “ON” in the Original list.

Compatibility

DVD mode

■ **Playing back discs recorded in Video mode on any regular DVD player:**

Discs recorded in Video mode can be played back on regular DVD players, including computer DVD drives compatible with DVD-Video playback. You will need to finalise the discs recorded in Video mode to play back in other DVD players.

* DVD-Video Format (Video mode) is a new format for recording on DVD-R/RW discs that was approved by the DVD Forum in 2000. Adoption of this format is optional for manufactures of DVD playback devices and there are DVD-Video players, DVD-ROM drives and other DVD playback devices available that cannot play back DVD-R/RW discs recorded in the DVD-Video Format.

DVD mode **VCR mode**

■ **PDC:**

This system assures that the TV programme you wish to record using timer recording will be recorded exactly from beginning to end even if the actual broadcasting time differs.

Choosing a disc

When you want to play DVD or CD software, load an appropriate disc into the recorder. There are many types and formats of discs. Please use the following information to select an appropriate disc.

Notes

- Handle the disc according to the disc instruction manual.
- Toshiba cannot guarantee that all discs bearing the DVD or CD logos will operate as expected. Additionally, Toshiba cannot guarantee that discs recorded in this device will operate properly in other DVD players, recorders and/or personal computer drives.

DVD disc types

★★★ : Most suitable ★★ : Can be used ★ : Some functions are limited — : Cannot be used

You want to	DVD-RW VR	DVD-RW Video	DVD-R
Record TV programmes	★★★	★★★	★★★
Reuse by deleting unwanted contents	★★★	★★	—
Edit recorded contents	★★★	★	★
Edit/Record from connected equipment	★★★	★★★	★★★
Copy discs for distribution	★★*1	★★★	★★★
Play on other DVD equipment	★★*1	★★★	★★★

Features	DVD-RW VR	DVD-RW Video	DVD-R
Recording			
Rewritable	Yes	Yes	No
Can create chapters at fixed intervals (auto.)	Yes	Yes	Yes
Can create chapters wherever you like (manual)	Yes	No	No
Can record 16:9 size pictures	Yes	Yes	Yes
Can record Copy-Once programmes	Yes	No	No
Editing			
Can perform basic edit functions	Yes	Yes	Yes
Can perform advanced edit functions (Playlist edit)	Yes	No	No

*1 DVD-RW (VR mode) can only be played on DVD equipment that is VR compatible.

Note:
For details of the above functions and implied restrictions, see the explanations inside the manual.

For recording /playback

Disc	Mark	Specification	Remarks
DVD-R	DVD R R 4.7	• 4.7GB for General Ver.2.0 (8cm (3 1/4 in.)) (12cm (4 3/4 in.))	Read carefully the section “On DVD-R discs” (page 12). Depending on the disc status or the recording equipment, playback of the disc may not be possible on this recorder.
DVD-RW	DVD RW	• 4.7GB for Ver. 1.1 and 1.2 (8cm (3 1/4 in.)) (12cm (4 3/4 in.))	Read carefully the section “On DVD-RW discs” (page 12). Depending on the disc status or the recording equipment, playback of the disc may not be possible on this recorder.

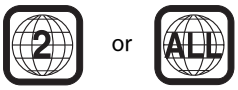
Using different disc types for different purposes

DVD-R/RW discs when creating your own original discs for distribution

DVD-R discs are designed to comply with the global standard DVD-Video format, and can be recorded only once. DVD-R discs are convenient when you edit your original content (recorded personal events such as a wedding party) with this recorder, transfer them to the recorder and make copies to send to your friends or relatives. The discs can be played on other compatible DVD players. DVD-RW discs, which are rewritable, can be used as well.

We cannot guarantee that DVD-R/RW discs recorded on this recorder will be playable on all DVD recorders/players. Similarly, there is no guarantee that all DVD-R/RW discs recorded on other recorders will be playable on this recorder.

For playback only

Disc	Mark	Specification	Remarks
DVD video		• 12cm (4¾ in.) / 8cm (3¼ in.) • Region number 	The region number of this DVD recorder is 2. The region number marked on the rear panel must correspond to a specific playable area, that is printed on your DVD video disc. If you do not find Region 2 or ALL regions, or the disc is encoded to permit playback only in regions other than Region 2, disc playback will not be allowed by the recorder.
Audio CD (CD-DA)		• 12cm (4¾ in.) / 8cm (3¼ in.)	
CD-R **CD-RW**		• 12cm (4¾ in.) • CD-DA (audio CD) format, MP3, JPEG, DivX® files	Depending on the disc status, playback may not be possible.
VCD (VIDEO CD)		• 12cm (4¾ in.) • Version 1.1 and 2.0	

is a trademark of DVD Format/Logo Licensing Corporation.

- You cannot play discs other than those listed above.
- You cannot play non-standardized discs even if they may be labeled as above.
- You cannot play discs with specialized encoding (such as SACD discs) or the DVD audio portions of DVD Audio discs.
- This recorder uses the PAL colour system, and cannot play DVD video discs recorded in any other colour system (NTSC, etc.), even if they have region marks Region 2 or ALL regions.
- Toshiba cannot guarantee that all discs bearing the DVD or CD logos will operate as expected. Please see the discussion of compatibility on page 12.

This label indicates playback compatibility with DVD-RW discs recorded in VR mode (Video Recording Format).

NOTE

- This player cannot play the DVD-R discs recorded in VR mode (Video Recording Format).

- Toshiba is not liable for any damage or loss caused directly or indirectly by the malfunction of this recorder, including, without limitation, any one of the following:
  - Failure to record contents intended to be recorded by the consumer.
  - Failure to edit contents as intended by the consumer.
  - When a DVD-R/RW disc created on this recorder is used (e.g., insertion, playback, recording or editing) in another DVD player, recorder or personal computer drive.
  - When a DVD-R/RW disc that is used in the manner described in the immediately preceding bullet point is used again in this recorder.
  - When a DVD-R/RW disc that was recorded in another DVD recorder, or in a personal computer drive is used in this recorder.
- Some functions may not work with personal computer discs.
- Discs recorded in this recorder may not operate as expected on other DVD players, recorders or personal computer drives.

Because of problems and errors that can occur during the creation of DVD and CD software and/or the manufacture of DVD and CD discs, Toshiba cannot guarantee that product will play every feature of every DVD bearing the DVD logo and/or every CD bearing the CD logo. As one of the creators of DVD technology, Toshiba DVD players are manufactured using the highest standards of quality, and as a result, such incompatibilities are rare.

On DVD-R discs

■ **Standards**

- DVD-R for General Ver.2.0 discs can be used for recording and playback.
- Discs compatible with the following recording mode speed can also be used:
  Ver. 2.0/2x
  Ver. 2.0/4x
  Ver. 2.0/8x
- Select discs labeled "for video", "for recording", "120 min." etc.

■ **Recording conditions**

- Images for which copying is prohibited or restricted (copy once or copy prohibited) cannot be recorded.
- We strongly recommend using any DVD-R 2x, and MAXELL DVD-R 16x to assure good recording quality.

■ **Discs that have been tested and are proven to be compatible with this recorder:**

Verbatim DVD-R 8x

On DVD-RW discs

■ **Standards**

- Discs labeled DVD-RW Ver.1.1 or 1.2 can be used.
- Discs compatible with the following recording mode speeds can also be used
  Ver. 1.1/2x
  Ver. 1.2/4x
- Select discs labeled "for video", "for recording", "120 min." etc.

■ **Recording conditions**

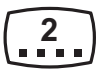
- Images for which copying is prohibited (copy prohibited) cannot be recorded. If the disc is labeled as CPRM compatible, images for which copying is restricted (copy once) can be recorded in VR mode.
- We strongly recommend using any DVD-RW 4x disc to assure good recording quality.

■ **Discs that have been tested and are proven to be compatible with this recorder:**

Verbatim DVD-RW 2x

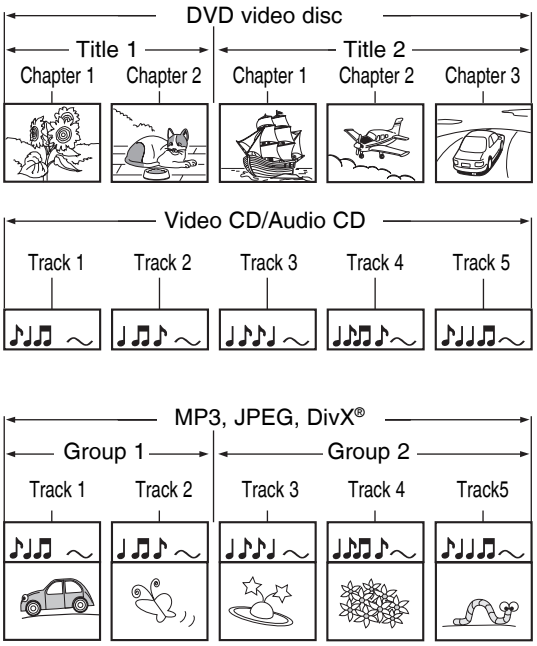
Marks on DVD video discs

The following are examples of marks and the meanings.

Mark	Meanings
	Number of audio streams recorded in the disc. (2 streams such as English and Japanese in this example.)
	Number of subtitle languages recorded in the disc. (2 subtitle languages are recorded in this example.)
	Number of camera angles recorded in the disc. (3 camera angles are recorded in this example.)
	Pictures are recorded in the standard picture shape (4:3 aspect ratio).
	Pictures are recorded in the letter box picture shape (4:3 aspect ratio with horizontal black bars in the top and bottom of pictures).
	Pictures are recorded in the 16:9 wide picture shape. TVs with 4:3 aspect ratio will display them in the letter box style.
	Pictures are recorded in the 16:9 wide picture shape. TVs with 4:3 aspect ratio will display them in the pan scan style (one or both sides of pictures are cut).
	Actual picture shape may vary depending on the aspect ratio or mode selection of the TV.

Structure of disc contents

Normally, DVD video discs are divided into titles, and the titles are subdivided into chapters.
Video CDs/Audio CDs are divided into tracks.



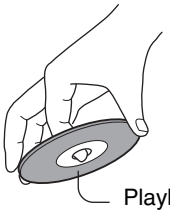
Title: Divided contents of a DVD video disc. Roughly corresponds to a story title in short stories.
Chapter: Divided contents of a title. This corresponds to a chapter in a story.
Track: Divided contents of a Video CD or an Audio CD.
Group: Divided contents of a MP3 or JPEG data disc. Consists of number of tracks.

Each title, chapter, or track is assigned a number, which is called “title number”, “chapter number”, or “track number” respectively.
Some discs may not have these numbers.

On handling discs

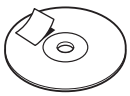
- Do not touch the playback side of the disc.

Yes



- Do not stick paper or tape to discs.

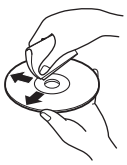
No



On cleaning discs

- Fingerprints and dust on the disc cause picture and sound deterioration. Wipe the disc from the centre outwards with a soft cloth. Always keep the disc clean.

Yes



No

- Do not use any type of solvent such as thinners, benzine, commercially available cleaners or antistatic spray for vinyl LPs. It may damage the disc.

On storing discs

- Do not store discs in a place subject to direct sunlight or near heat sources.
- Do not store discs in places subject to moisture and dust such as a bathroom or near a humidifier.
- Store discs vertically in a case. Stacking or placing objects on discs outside of their case may cause warping.

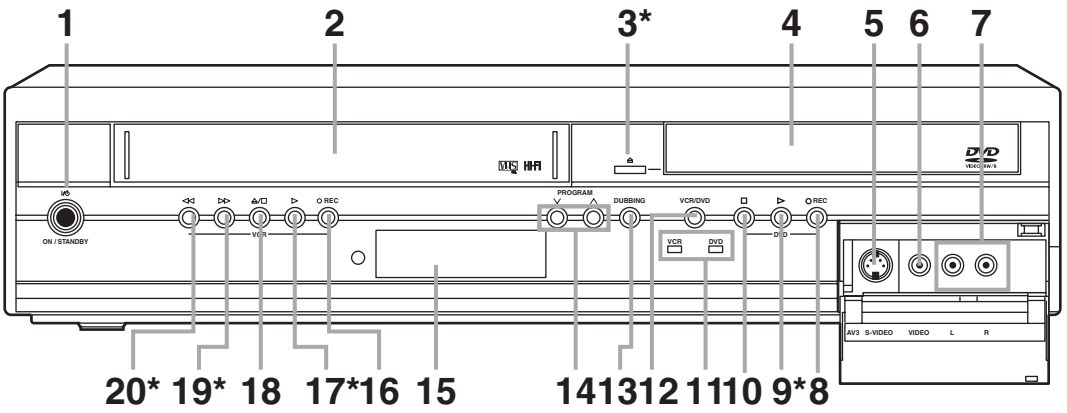
Discs and purposes

The table shows main functions which are available on this recorder per disc category.
This will help you choose discs.

	DVD-RW disc Video mode	DVD-RW disc VR mode	DVD-R disc Video mode
Characteristics on this recorder	Suitable for saving data in Video mode format to play on compatible devices. You can erase recorded contents to use the disc repeatedly.	Suitable for saving data in VR mode format to play on compatible devices. You can erase recorded contents to use the disc repeatedly.	Suitable for saving data in Video mode format to play on compatible devices. Once you execute Video mode finalising process on a recorded disc so that it can be played on other players. You cannot make additions, corrections and deletions of contents on the disc.
For the first use	Initialise the disc.	Initialise the disc.	No preparatory steps required.
Recording a TV programme	Yes	Yes	Yes
Erasing recorded contents	Yes If the disc has been executed Video mode finalising process, first cancel the process then delete contents.	Yes You can erase recorded contents without canceling the finalising process.	Yes Deleting contents cannot restore the disc space. After you execute Video mode finalising process on a recorded disc, you cannot delete contents of the disc.
Recording additional content on a recorded disc	Yes If the disc has been executed Video mode finalising process, first cancel the process then delete contents.	Yes You can add contents without canceling the finalising process.	Yes After you execute Video mode finalising process on a recorded disc, you cannot add contents to the disc.
Indexing recorded contents Naming a title Creating a thumbnail	Yes Yes Yes After you execute Video mode finalising process on a recorded disc, you cannot name a title or create a thumbnail.	Yes Yes Yes After you execute VR mode finalising process on a recorded disc, you can name a title or create a thumbnail.	Yes Yes Yes After you execute Video mode finalising process on a recorded disc, you cannot name a title or create a thumbnail.
Collecting favourite scenes (Playlist Editing) Making a new title from a Playlist containing favourite scenes (Copy within the same disc)	No No	Yes Yes	No No
Playing contents recorded on this recorder, on other devices	Execute Video mode finalising process on this recorder. This process makes the disc playable on other compatible devices. (Some models excepted.)	Execute VR mode finalising process on this recorder. This process makes the disc playable on other compatible devices. (Some models excepted.)	Execute Video mode finalising process on this recorder. This process makes the disc playable on other compatible devices. (Some models excepted.)
When a message appears and the loaded disc cannot be used	Initialise the disc.	Initialise the disc.	—

Index to parts and controls

Front Panel

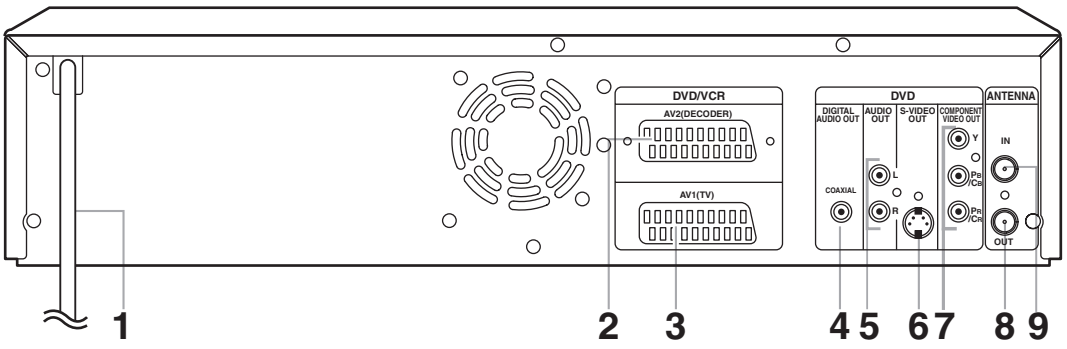


1. **I/⏻ ON/STANDBY button**
   Press to turn on or off the unit.
2. **Cassette compartment (VCR)**
   Insert a tape here.
3. **⏏ (OPEN/CLOSE) button* (DVD)**
   Press to open or close the disc tray.
4. **Disc tray (DVD)**
   Place the disc here when open.
5. **S-VIDEO input jack (AV3) (DVD / VCR)**
   Use to connect the S-Video output of external equipment with an S-Video cable.
6. **VIDEO input jack (AV3) (DVD / VCR)**
   Use to connect external equipment with a standard Video cable.
7. **AUDIO input jacks (AV3) (DVD / VCR)**
   Use to connect external equipment with a standard Audio cable.
8. **● REC button (DVD)**
   Press once to start recording.
   Press repeatedly to start a One-touch Timer Recording.
9. **▶ (PLAY) button* (DVD)**
   Press to start or resume playback.
10. **■ (STOP) button (DVD)**
    Press to stop a playback or recording.
    Press to stop a timer recording.
11. **VCR / DVD indicator (VCR / DVD)**
    Indicates the selected component (DVD or VCR).
12. **VCR / DVD button (VCR / DVD)**
    Press to select the DVD mode or the VCR mode.
13. **DUBBING button (DVD / VCR)**
    Press to start VCR to DVD (DVD to VCR) duplication which you set in the setup menu.
14. **PROGRAM ∨/∧ buttons (DVD / VCR)**
    Press to change the channel up or down.
15. **Display (DVD / VCR)**
    Refer to “Front Panel Display Guide” on page 19.
16. **● REC button (VCR)**
    Press once to start recording.
    Press repeatedly to start a One-touch Timer Recording.
17. **▶ (PLAY) button* (VCR)**
    Press to start playback.
    Press to turn on the unit and start playback when the unit is off with a tape inserted.
18. **⏏/■ (EJECT / STOP) button (VCR)**
    Press to remove the tape from the unit.
    Press to stop the tape motion.
    Press to stop the proceeding timer recording in VCR.
19. **▶▶ (FWD) button* (VCR)**
    Press to rapidly advance the videotape.
    Press to view the picture rapidly in forward during playback. (Forward Search)
    Press to turn the unit on when the videotape is inserted and start rapidly advancing the tape.
20. **◀◀ (REV) button* (VCR)**
    Press to rewind the videotape.
    Press to view the picture rapidly in reverse during the playback mode. (Rewind Search)
    Press to turn the unit on when the videotape is inserted and start rewinding the tape.

* You can also turn on the unit by pressing these buttons.

Button names described in the Owner’s Manual
The instructions in this manual are described mainly with the operations using the remote control. Some operations can be carried out using the buttons on the front panel.

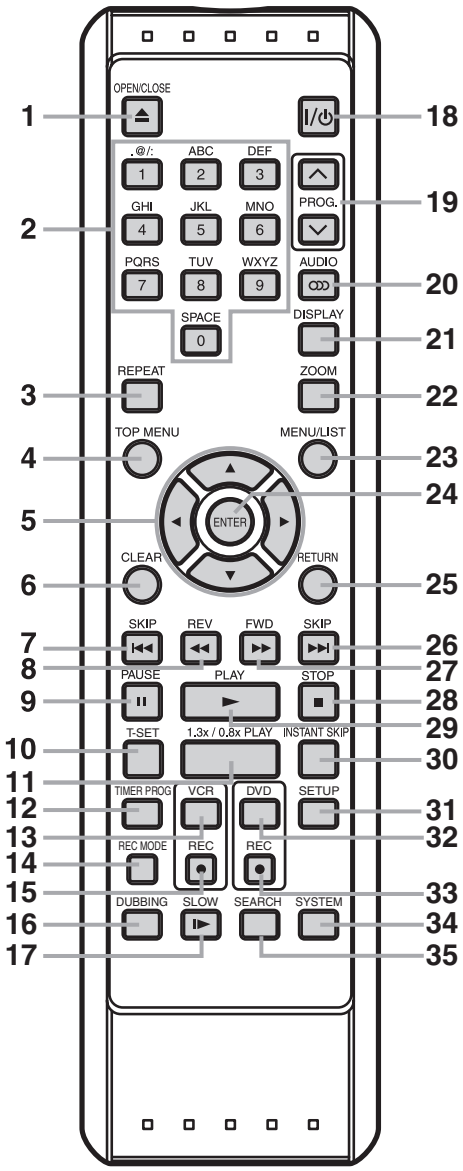
Rear Panel



1. **Mains cable**
   Connect to a standard AC outlet.
2. **AV2 (DECODER) socket (DVD/VCR)**
   Connect to VCR, camcorder, or other Audio-Video equipment. Use a commercially available Scart cable.
3. **AV1 (TV) socket (DVD/VCR)**
   Connect to the Scart socket on your TV. Use a commercially available Scart cable.
4. **DIGITAL AUDIO OUT (COAXIAL) jack (DVD)**
   Connect to an amplifier with digital input jack such as a Dolby Digital decoder or DTS decoder. Use a commercially available Coaxial cable.
5. **AUDIO OUT jacks (DVD)**
   Connect to the audio input jacks on your TV. Use a commercially available Audio cable.
6. **S-VIDEO OUT jack (DVD)**
   Connect to the S-Video input jack on your TV. Use commercially available S-Video cable.
7. **COMPONENT VIDEO OUT jacks**
   Connect to the component video input jacks on your TV.
   Use a commercially available Component Video cable.
8. **ANTENNA OUT jack (DVD/VCR)**
   Connect to the Aerial jack on your TV, cable box or direct broadcast system. Use the supplied RF cable.
9. **ANTENNA IN jack (DVD/VCR)**
   Connect to an antenna or cable.

Notes

- Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the unit.
- This unit does not have an RF modulator.



1. **OPEN/CLOSE ⏏ button* (DVD / VCR)**
   Press to open or close the disc tray.
   Press to remove the tape from the unit.
2. **Number buttons (DVD / VCR)**
   Press to select channel numbers.
   Press to select a title / chapter / track on the display.
   Press to enter values for settings in the setup menu.
   Press to enter the number in the Index or Time search in VCR mode.
   Press to enter the characters in edit function.
3. **REPEAT button (DVD)**
   Press to select the Repeat mode.
4. **TOP MENU button (DVD)**
   Press to display the Title menu.
5. **Direction buttons (▲ / ▼ / ◄ / ►) (DVD / VCR)**
   Press to select items or settings.
6. **CLEAR button (DVD / VCR)**
   DVD mode
   Press to clear the password once entered.
   Press to cancel the programming for a disc.
   Press to clear the selecting marker number in the marker setup mode.
   Press to clear the programme once entered in the timer recording setting mode.
   VCR mode
   Press to reset the tape counter.
7. **SKIP ⏮ button (DVD)**
   During playback, press once midway through a chapter or track to go back to the beginning of the current chapter or track. When pressed twice in quick succession, playback will start from the preceding chapter or track.
   When playback is paused, press to play reverse step by step.
8. **REV ◄◄ button (DVD / VCR)**
   DVD mode
   During playback, press to reverse fast.
   When playback is paused, press to play slow reverse.
   VCR mode
   Press to rewind the videotape in stop mode.
   Press to view the picture rapidly in reverse during the playback mode.
9. **PAUSE ❚❚ button (DVD / VCR)**
   Press to pause playback or recording.
10. **T-SET button (DVD / VCR)**
    Press to enter the timer-standby mode. In the timer-standby mode, press to cancel the mode and to turn on the unit.
11. **1.3x / 0.8x PLAY button (DVD)**
    During playback, press to playback in a slightly faster/slower speed while keeping the audio quality.
12. **TIMER PROG button (DVD / VCR)**
    Press to display the Timer Programme setting menu.

13. VCR button

Press to activate the remote control in VCR mode. (See page 22.)

Press to select the VCR output mode.

14. REC MODE button (DVD / VCR)

Press to switch the recording mode.

15. REC ● button (VCR)

Press once to start recording.

Press repeatedly to start a One-touch Timer Recording.

16. DUBBING button (DVD / VCR)

Press to start VCR to DVD (DVD to VCR) duplication which you set in the setup menu.

17. SLOW ▮► button (VCR)

During playback, press to view the videotape in slow motion.

18. I/⏻ ON/STANDBY button (DVD / VCR)

Press to turn on or off the unit.

19. PROG. ∧/∨ buttons (DVD / VCR)

DVD mode

Press to change the channel up or down.

VCR mode

Press to change the channel up or down.

Press to adjust the tracking during playback or in slow motion of the tape.

While playback is in still mode, you can adjust the vertically blurred picture.

20. AUDIO button (DVD / VCR)

DVD mode

When receiving a bilingual broadcast, press to change the audio out setting to "Main", "Sub" or "Main/Sub".

Press to change the bilingual audio source of an external equipment to "Main", "Sub", or "Main/Sub". (Available only when the "External input Audio" in the DVD setup menu is set to "Bilingual" in advance.)

Press to display the audio menu during playback.

Press to select the sound mode.

VCR mode

During playback of a Hi-Fi videotape, press to change the audio out setting to "STEREO", "LEFT", "RIGHT", and "MONO".

When receiving a bilingual broadcast, press to change the audio out setting to "Main", "Sub", and "Main/Sub".

Press to change the bilingual audio source of an external equipment to "Main", "Sub", or "Main/Sub". (Available only when the "External Input Audio" in the DVD setup menu is set to "Bilingual" in advance.)

21. DISPLAY button (DVD / VCR)

Press to display the on-screen display.

22. ZOOM button (DVD)

During playback, press to enlarge the picture on the screen.

23. MENU / LIST button (DVD)

Press to display the Disc menu during playback.

Press to change the Original and Playlist on the TV screen. (VR mode only)

24. ENTER button (DVD / VCR)

Press to confirm or select menu items.

25. RETURN button (DVD / VCR)

Press to return to the previously displayed menu screen.

26. SKIP ▶▶I button (DVD)

During playback, press to skip to the next chapter or track.

When playback is paused, press to advance step by step.

27. FWD ▶▶ button (DVD / VCR)

DVD mode

During playback, press to play fast forward.

When playback is paused, press to play slow forward.

VCR mode

Press to fast forward the videotape in stop mode.

Press to view the picture rapidly in forward during playback.

28. STOP ■ button (DVD / VCR)

Press to stop playback or recording.

29. PLAY ► button* (DVD / VCR)

Press to start or resume playback.

30. INSTANT SKIP button (DVD)

During playback, press to skip 30 seconds. (See page 78.)

31. SETUP button (DVD / VCR)

Press to display the setup menu in stop mode.

32. DVD button

Press to activate the remote control in DVD mode. (See page 22.)

Press to select the DVD output mode.

33. REC ● button (DVD)

Press once to start a recording.

Press repeatedly to start a One-touch Timer Recording.

34. SYSTEM button (VCR)

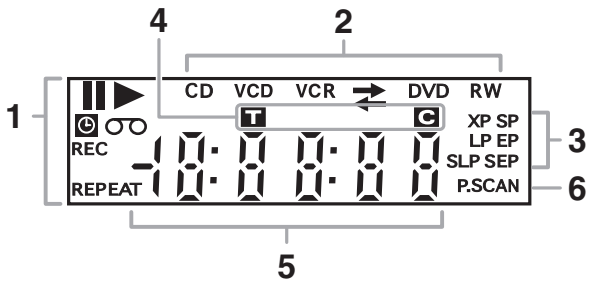
The button does not work for this unit.

35. SEARCH button (VCR)

Press to call up the index or time search menu.

* The unit can also be turned on by pressing these buttons when the remote control is in DVD mode.

Front Panel Display Guide



1. Current Status of the unit

⏸ :Appears when disc playback is paused.
Appears also during step by step playback.

▶ :Appears when playing a disc.

⏸▶ :Appears during slow forward or slow reverse playback.

◷ :Appears when the timer programming or One-touch Timer Recording (OTR) is set and is operating.
Appears when the unit goes into the Satellite Link standby mode.
Flashes when all the timer programmes are finished. Flashes when there is an error in programming.

REC :Appears when recording. Flashes when recording being paused.

REPEAT
:Appears during repeat playback. (only for disc playback)

ꝏ :Appears when a tape is in the unit.

2. Disc type and Current status of the unit

CD :Appears when an Audio CD or a disc with MP3 / JPEG / DivX® files recorded is inserted into the unit.

VCD :Appears when a Video CD is inserted into the unit.

DVD :Appears when a DVD / DivX® is inserted into the unit, or when recording or in the timer-standby mode.
Flashes when switch to the timer-standby mode while programming cannot set.
Flashes when a programme cannot be performed for some reason.

DVD R
:Appears when a DVD-R disc is inserted into the unit.

DVD RW
:Appears when a DVD-RW disc is inserted into the unit.

VCR :Appears when the timer recording is proceeding in VCR.
Appears when VCR is in the timer-standby mode.
Flashes when switch to the timer-standby mode while timer programming cannot set.
Flashes when a timer programming cannot be performed for some reason.

VCR→DVD
:Appears during VCR to DVD duplication process.

VCR←DVD
:Appears during DVD to VCR duplication process.

3. Recording mode
:Selected recording mode appears.

4. Title / Track and Chapter mark

T :Title / track number

C :Chapter number

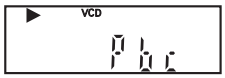
5. Displays the following

- Playing back time
- Current title / chapter / track number
- Recording time / remaining time
- Clock
- Channel number
- VCR tape counter
- One-touch Timer Recording (OTR) remaining time

6. P.SCAN
:Appears when the progressive scan system is activated.

■ Display message

The disc tray is opening.



The PBC function of the Video CD is activated.

The disc tray is closing.

A disc is loading.

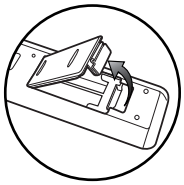
Data is being recorded on a disc.

Preparation of the remote control

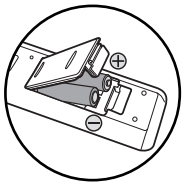
Installing batteries in the remote control

■ **Install two R6 (AA) batteries (supplied) into the remote control, carefully match with the polarity indicated inside the battery compartment.**

1 **Open the cover.**

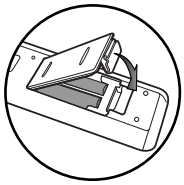


2 **Insert batteries.**



Make sure to match the + and - on the batteries to the marks inside the battery compartment.

3 **Close the cover.**



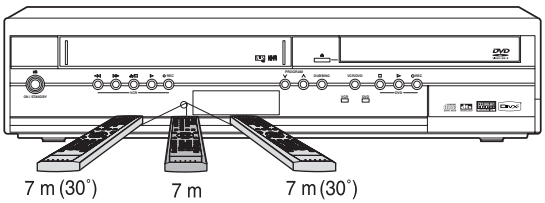
Notes:

- Incorrect use of batteries can result in hazards such as leakage and bursting.
- Do not mix new and old batteries together.
- Do not use different kinds of batteries together.
- Make sure that the + and - ends of each battery match the indications inside the battery compartment.
- Remove batteries if the remote control will not be used for an extended period of time.
- When disposing used batteries, please comply with governmental regulations or the public instructions for environmental protection that apply in your country or area.
- Do not recharge, short-circuit, heat, burn or disassemble batteries.

About the remote control

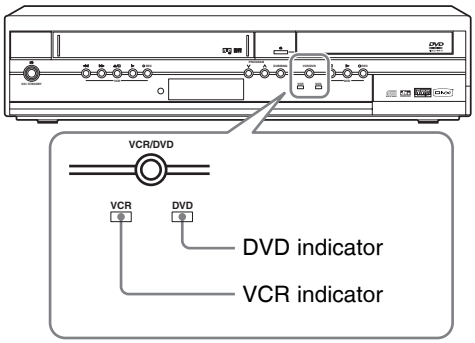
■ **Keep in mind the following when using the remote control:**

- Make sure there is no obstacle between the remote control and the remote control sensor on the unit.
- Use within the operating range and angle as shown.
- Remote control operation may become unreliable if the remote control sensor of the unit is being exposed by the strong sunlight or fluorescent light.
- Remote controls for different devices can interfere with each other. Be careful when using remote controls for other equipment located close to the unit.
- Replace the batteries when the operating range of the remote control reduces.
- The maximum operable range as follows:
  - **Line of sight**: approximately 7 m
  - **Either side of the centre**: approximately 7 m within 30 degrees



VCR / DVD recorder Switching

Because this product is a combination of a VCR and a DVD recorder, you must first select which component you wish to operate with [VCR/DVD] on the front panel.



VCR mode

Press [VCR] on the remote control.
(Verify that the VCR indicator is lit.)

DVD mode

Press [DVD] on the remote control.
(Verify that the DVD indicator is lit.)

Notes:

- **Pressing only [VCR/DVD] on the front panel DOES NOT switch the mode of the remote control. You MUST select the correct mode on the remote control.**
- Press [VCR/DVD] to select the DVD mode or the VCR mode.
- You cannot switch to the mode (DVD or VCR) that is in the timer-standby mode.
- If the media is available, you can start recording by pressing [REC ●] (DVD) or [REC ●] (VCR) on the remote control even if another equipment (DVD or VCR) is selected. In this case, the mode of the remote control will be automatically switched to the appropriate component.

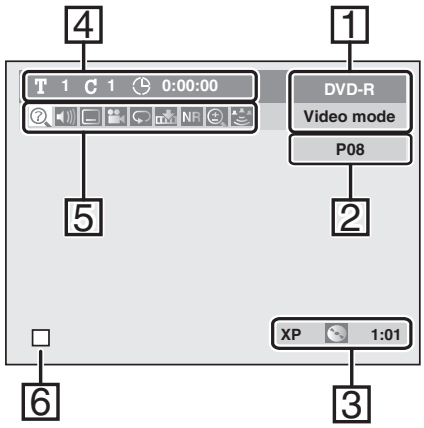
On Screen menu

This unit uses the following On Screen menu for most operations: Setup menu, Title list, Playlist, Original and Display menu. They allow you to change the playing status of disc during playback.
The Display menu also gives you information on the status of the disc.

Display menu

DVD mode

■ **Press [DVD] first.**
With a disc inserted into the unit, press [DISPLAY] to display the On-Screen Display. The menu shows information about what is recorded on the disc.



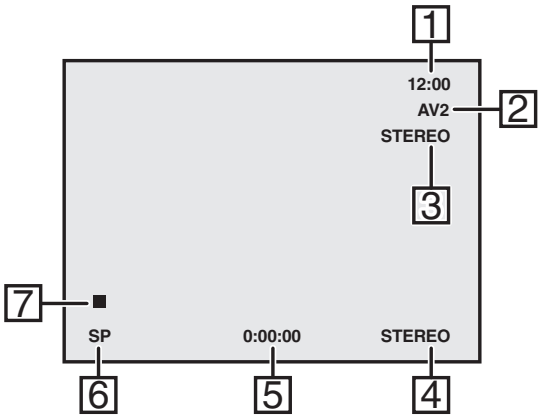
1. **Disc type and format mode**
   In some descriptions in this manual, only one type of disc is indicated as an example.
2. **Position number of the programme**
3. **Recording mode and remaining time**
4. **Title number, chapter number and the elapsed time of disc playback**
5. **Each icon means:**

: Search
: Audio
: Subtitle
: Angle (except VR mode)
: Repeat
: Marker
: Noise Reduction
: Zoom
: Surround

6. **Status of the current disc**

VCR mode

■ **Press [VCR] first.**
Press [DISPLAY] to display the on screen display.

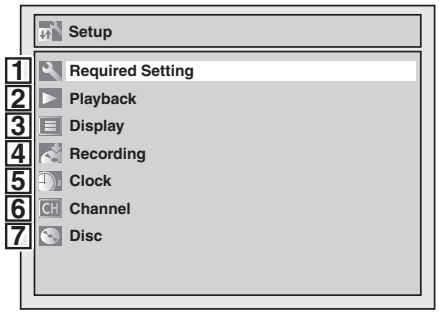


This is an example screen for explanation.
Displayed items are depending on the actual mode.

1. **Current time**
2. **Position number**
3. **Audio status of the receiving broadcast or external equipment**
4. **Audio status of the currently playing back videotape**
5. **Tape counter**
6. **Recording or playing back mode**
7. **Status of the current tape**

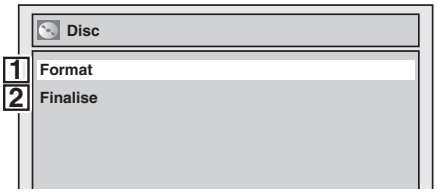
Setup menus

Press [SETUP] to display the Setup menu, then press [ENTER] to display each menu, using [▲ / ▼].
These menus provide entries to all main functions of the unit.

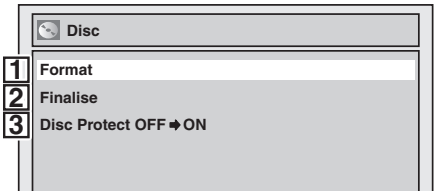


1. **Required Setting:**
   To set up the required setting.
2. **Playback:**
   To set up the unit to play discs as you prefer.
3. **Display:**
   To set up the screen and the front display of the unit as you prefer.
4. **Recording:**
   To set up the unit to record on discs or tapes as you prefer.
5. **Clock:**
   To set up the clock of the unit as you need.
6. **Channel:**
   To adjust the channel setting of the unit as you prefer.
7. **Disc / CD Playback Mode:**
   When a DVD-Video disc (commercially available), a new DVD-R disc or a DVD-R/RW disc with DivX® files is inserted into the unit, you cannot select "Disc".
   "CD Playback Mode" is available only when an Audio CD disc or a CD-R/RW disc with MP3 / JPEG files is inserted into the unit.
   You cannot select "CD Playback Mode" when a CD-R/RW disc with DivX® files is inserted into the unit.

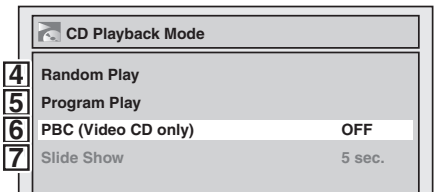
<DVD-R, DVD-RW (Video mode)>



<DVD-RW (VR mode)>



<Audio CD, MP3, JPEG, Video CD>



1. **Format (DVD-RW only):**
   Allows you to erase all of the recorded contents on the disc.
   The disc will be completely blank.
   - Erased content cannot be called back.
   - A DVD-RW disc formatted with this unit cannot be used on other DVD recorders without any recording using this unit.
   - If you want to use a disc only formatted with this unit on other DVD recorder, you have to re-format the disc on that recorder.
2. **Finalise:**
   Allows you to finalise a disc containing recorded titles.
3. **Disc Protect (VR mode only):**
   Allows you to protect a disc from accidental editing or recording.
4. **Random Play:**
   To activate the random playback feature.
5. **Program Play (Audio CD and Video CD only):**
   To activate the programmed playback feature.
6. **PBC (Video CD only):**
   Turn the PBC function "ON" or "OFF".
7. **Slide Show (JPEG files only):**
   Select the display time of the slide show mode.

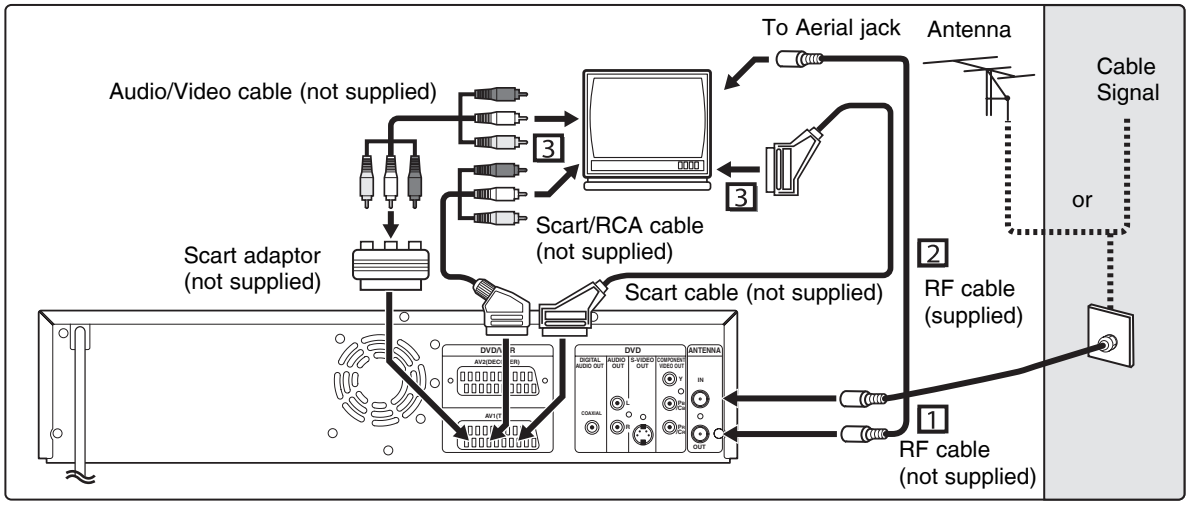
Connections

Connect your recorder to your TV or stereo system.

- **Connections**

Connections

Connect the unit to a TV after considering the capabilities of your existing equipment.
Before installation, unplug your TV and this unit.



■ **Using the Scart socket**

1) Connect the antenna or cable to the ANTENNA IN jack of this unit.

2) Connect the ANTENNA OUT jack of this unit to the Aerial jack of your TV. Use the supplied RF cable.

3) Connect AV1 (TV) Scart socket of this unit to the Scart socket of your TV. Use a commercially available Scart cable.

Notes

- If your TV does not have a Scart socket, use a commercially available Scart adaptor or Scart / RCA cable to connect. **Use only AV1 (TV) or AV2 (DECODER) socket for the VCR output signals of this unit.**
- Connect this unit directly to the TV. If the A/V cables are connected to a VCR, pictures may be distorted due to the copy protection system.
- **When changing the "Video Out" setting ("SCART (RGB)", "Component Interlace (I)" or "Component Progressive (P)"), connect to a Video jack or an S-Video jack on the TV. If the setting is changed, for example, to "Component Interlace (I)" or "Component Progressive (P)" while the scart cable is connected to the TV, a distorted video signal may be output.**

Selecting Progressive Scan (625p <576p> or Interlaced 625i <576i>) Playback

- If your TV is compatible with progressive scanning (625p <576p>), connect the TV to the COMPONENT VIDEO OUT jacks of the DVD player and set "Video Out" setting to "Component Progressive (P)" in the setup menu. (See page 125.) Next, set your TV to the progressive scan mode.
- If your TV is not compatible with progressive scan, set "Video Out" setting to "Component Interlace (I)".
- Use a commercially available adaptor if the Video input jacks of your TVs or monitors are the BNC type.

Using the S-VIDEO OUT or the COMPONENT VIDEO OUT jacks and the AUDIO OUT jacks (Only for DVD)

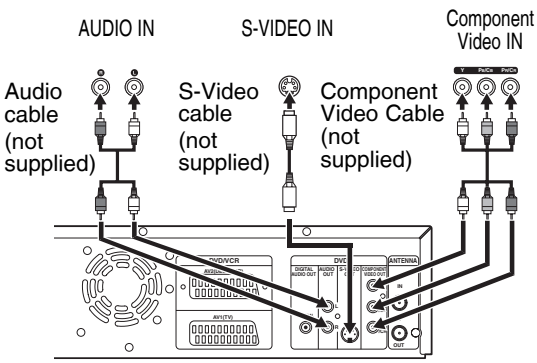
If your TV has an S-Video or a Component Video input jack, use either an S-Video cable (to connect the S-VIDEO OUT jack) or a Component Video cable (to connect the COMPONENT VIDEO OUT jacks), and an Audio Cable (to connect the AUDIO OUT jacks).

- S-Video connection provides the good quality picture.
- Component connection provides the better quality picture.

1) Follow steps 1 and 2 on page 26.

2) Connect S-VIDEO OUT or COMPONENT VIDEO OUT jacks of this unit to the S-Video or Component Video input jacks of your TV. Use a commercially available S-Video cable or Component video cable.

3) Connect the AUDIO OUT jacks of this unit to the analogue Audio input jacks of your TV. Use a commercially available Audio cable.



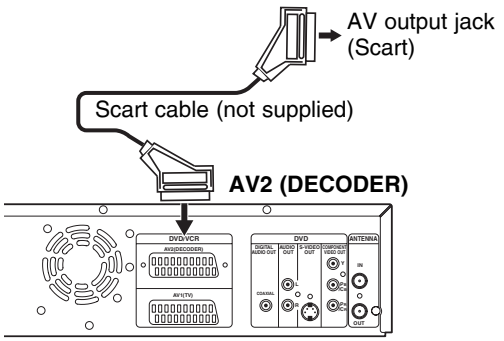
Note for a TV with no S-Video input jack or Scart socket:

- This unit has no RF modulator, so this type of TV cannot be used.
- Only component connection is compatible with the Progressive Scan.

Connecting to external equipment

This unit has three input terminals, AV1, AV2 on the rear panel and AV3 on the front panel. Be sure that all the units are off before making connections.

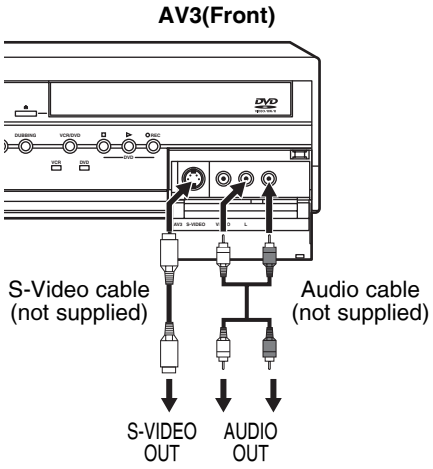
■ Recording from a DVD player, VCR or other Audio-Video equipment with a Scart output jack (AV2)



Note

- If the external equipment connected to the AV2 jack supplies control voltage to this unit via Pin 8 of the Scart cable, the display functions (e.g. P01) of the remote control cannot be seen on the TV connected to the AV1. In this case, turn off the external equipment to prevent control voltage.

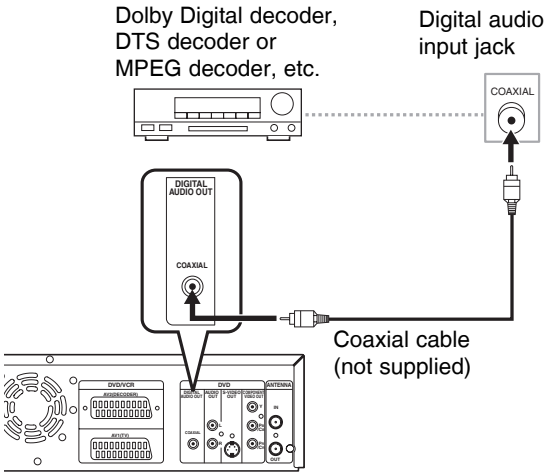
■ Recording from a camcorder or other Audio-Video equipment with no Scart output jack (AV3)



Change the setup. (See page 58.)
If no S-Video input jack is available, connect to Video input jack on the front panel using an RCA Video cable.

Digital audio for better sound quality

■ **The connections illustrated below are optional for better sound.**



1) For clear digital sound quality, use the DIGITAL AUDIO OUT (COAXIAL) jack to connect your digital audio equipment.

If the audio format of the digital output does not match the capabilities of your receiver, the receiver will produce a strong, distorted sound or no sound at all.

■ Connecting a Dolby Digital™ decoder, DTS decoder or MPEG decoder

- Connecting multi-channel Dolby Digital decoder allows you to enjoy the multi-channel Dolby Digital surround system as well as DTS decoder, multi-channel surround system.
- After connecting to a Dolby Digital decoder, set "Dolby Digital" to "Stream" in the Audio menu. (See page 121.)
- After connecting to a DTS decoder, set "DTS" to "ON" in the Audio menu. (See page 121.)
- After connecting to a MPEG decoder, set "MPEG" to "Stream" in the Audio menu. (See page 121.)

■ Connecting to an MD deck or DAT deck

- The audio source recorded in Dolby Digital multi-channel surround format cannot be recorded using an MD or DAT deck as a digital sound.
- If not connected to a Dolby Digital decoder, set "Dolby Digital" to "PCM" in the Audio menu (see page 121).
- Playing back a DVD using incorrect settings may generate noise distortion, and damage speakers.
- Set "Dolby Digital" and "MPEG" to "PCM" and set "DTS" to "OFF" in the Audio menu (see page 121) for connecting to an MD or DAT deck.
- You can use AUDIO OUT jacks for the connection of your audio system.

After you have completed connections

Switch the input selector on your TV to an appropriate external input channel. For details, refer to the Owner's Manual of your TV.

Note

- Connect this unit directly to the TV. If the AV cables are connected to a VCR, pictures may be distorted due to the effects of the copy protection system.

Basic Setup

Read this chapter for necessary settings to get started.

- **Initial setting**
- **Channel setting**
- **Setting the clock**
- **Selecting the TV aspect ratio**

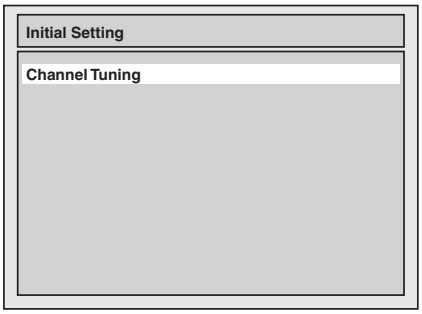
Initial setting

You need to follow these steps when you turn this unit on for the first time.

1) Press [I/⏻ ON/STANDBY].

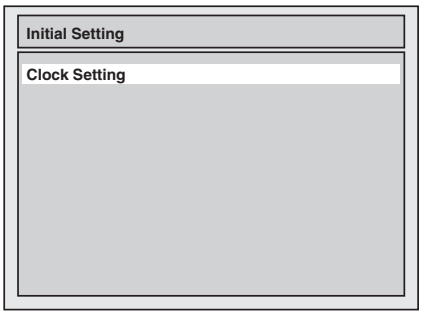
2) Turn the TV on. Select the input to which the unit is connected.
Initial Setting menu will automatically appear.

3) Press [ENTER] to start Channel Tuning.



The unit will start getting channels available in your area.

4) After channel setting is finished, "Clock Setting" will appear. Then press [ENTER].



Clock Setting menu will appear.

5) Press [ENTER] again, then follow the steps 4 to 5 on page 34 in "Manual Clock Setting".

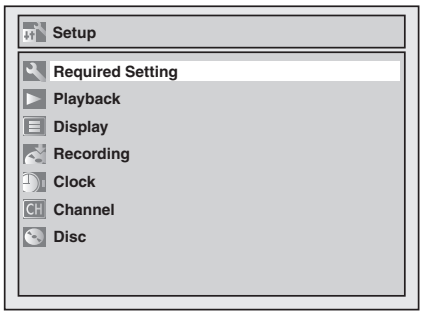
Channel setting

Tuning of this unit to broadcast channels can be performed in two ways.

Auto tuning

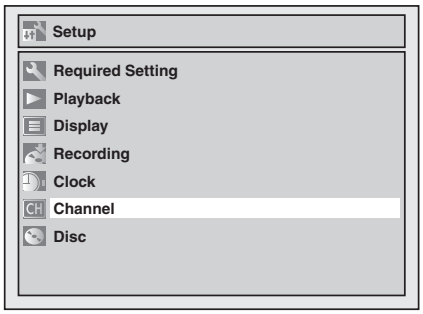
Programme the tuner to scan only the channels you can receive in your area.

1) In stop mode, press [SETUP].



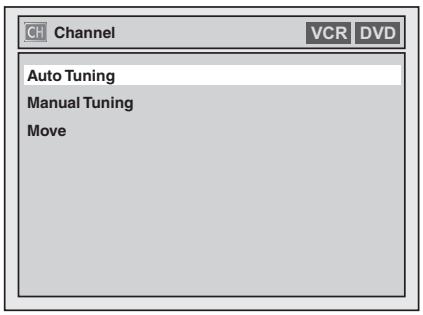
Setup menu will appear.

2) Select "Channel" using [▲ / ▼], then press [ENTER].



Channel menu will appear.

3) Select "Auto Tuning" using [▲ / ▼], then press [ENTER].
The unit will start storing channels available in your area.



Wait for several minutes to finish channel storing.

4) Press [SETUP] to exit.
You can select only the channels memorised in this unit by using [PROG. ∧/∨].

■ To select a channel
You can select a channel using [PROG. ∧/∨], or directly enter the channel using [the Number buttons] on the remote control.

■ To cancel auto tuning
Press [RETURN] or [SETUP] during scanning.

Notes
- The selection will be affected by how you receive TV channels in your local area.
- If the auto tuning is cancelled during scanning, some channels not yet tuned may not be received.
- Sorting of TV channels from P01 to P06 will be performed automatically as follows.

P01: BBC1	P02: BBC2	P03: ITV
P04: CH4	P05: CH5	P06: SKY NEWS

* If you are using a satellite receiver, turn it on and select SKY NEWS before commencing tuning.

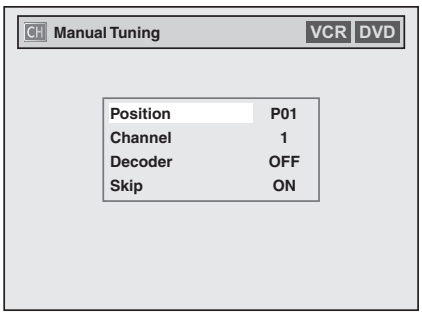
Manual tuning

Manually tune each channel.

1) In stop mode, press [SETUP].

2) Select "Channel" using [▲ / ▼], then press [ENTER].

3) Select "Manual Tuning" using [▲ / ▼], then press [ENTER].



4) Select "Position" using [▲ / ▼], then press [►].

5) Select the position number you want using [▲ / ▼], then press [◄].
You can select position numbers 01 to 99.

6) Select "Channel" using [▲ / ▼], then press [ENTER].

7) Press [▲ / ▼] to start scanning.

- The tuner will begin to search up or down automatically. When a channel is found, the unit will stop searching and the picture will appear on the TV screen.
- You can select a desired channel number using [the Number buttons]. Refer to the following Channel Plan table and press the three digits to select the channel number.
  (To select channel 4, press [0] first and then press [0] and [4]. Or press [4] and then "– – 4" appears and wait for 2 seconds.)
- If this is the channel you want, press [◀].

Channel Plan	
Ch. Indication	TV Channel
01 - 10	IRA - IRJ, GAP
21 - 69	E21 - E69
74 - 78	X, Y, Z, Z+1, Z+2
80 - 99, 100	S1 - S20, GAP
121 - 141	S21 - S41

This unit can receive the Hyper and Oscar frequency bands.

- If you want to decode scrambled signals, select "Decoder" using [▲ / ▼], then press [▶]. Select "ON" using [▲ / ▼], then press [◀].
- If "Skip" is set to "ON", select "Skip" using [▲ / ▼], then press [▶]. Select "OFF" using [▲ / ▼], then press [◀].
- To store another channel, repeat steps 4 to 7.

8) After completion, press [SETUP] to exit.

To select a channel

Notes on using [the Number buttons]:

- Enter channel numbers as a two-digit number for the quickest result. For example, to select channel 6, press [0] and [6]. If you only press [6], channel 6 will be selected after 2 seconds. You can only select channels 1 to 99.
- You can select the external input mode "AV1", "AV2" or "AV3".
  - To select "AV1", press [0], [0], [1].
  - To select "AV2", press [0], [0], [2].
  - To select "AV3", press [0], [0], [3].

To skip a Preset channel

You can set the unit to skip channels you can no longer receive or seldom watch when you access channels using [PROG. ∧/∨].

1) Follow steps 1 to 3 in "Manual tuning" on page 31.

2) Select "Position" using [▲ / ▼], then press [▶].

3) Select the position number you wish to skip using [the Number buttons] or [▲ / ▼], then press [◀].

4) Select "Skip" using [▲ / ▼], then press [▶].

5) Select "ON" using [▲ / ▼], then press [◀].

- To skip another channel, repeat steps 2 to 5.

6) Press [SETUP] to exit.

Move

You can replace two channels.

1) In stop mode, press [SETUP].

2) Select "Channel" using [▲ / ▼], then press [ENTER].

3) Select "Move" using [▲ / ▼], then press [ENTER].

4) Select the position number you want to move the channel using [▲ / ▼], then press [ENTER].
You cannot select a position number where "– – –" appears next to the number, because "Skip" is set to "ON" for that position number.

5) Move the channel to another position number using [▲ / ▼], then press [ENTER].

- To move another channel, repeat steps 4 to 5.

6) Press [SETUP] to exit.

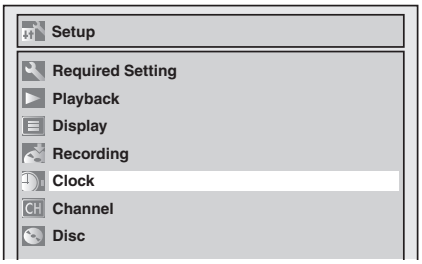
Setting the clock

Auto Clock Setting

Channel Tuning must be set before setting Auto Clock.

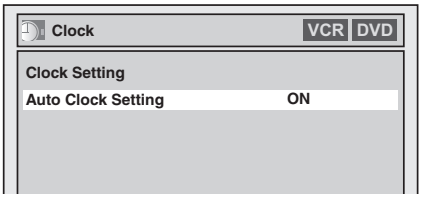
1) In stop mode, press [SETUP].

2) Select "Clock" using [▲ / ▼], then press [ENTER].



Clock menu will appear.

3) Select "Auto Clock Setting" using [▲ / ▼], then press [ENTER].



Option window will appear.

4) Select "ON" using [▲ / ▼], then press [ENTER].

5) Press [SETUP] to exit.

6) Press [I/⏻ ON/STANDBY] to turn off.

The Auto Clock function is activated.

This unit will search for the time only when the power is off. Leave the unit off for several minutes to give it time to set the clock.

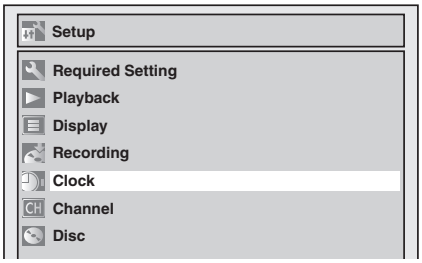
Notes

- If you want to cancel "Auto Clock Setting", select "OFF" using [▲ / ▼] at step 4, and then press [ENTER].
- The default setting of "Auto Clock Setting" is "ON".
- The clock may set itself automatically after you connect the antenna cable to the unit and plug in the mains cable. In this case, the current time will appear on the front panel display.
- To set the clock automatically, the channel assigned to "P04" must receive the PDC signal.
- The clock cannot be set automatically if you are not receiving a channel in your area that carries a time signal. In this case, set the clock manually.
- Once the auto clock setting is performed, the unit will correct the current time by receiving PDC broadcasts whenever you turn off the unit.
- The unit will correct the current time automatically at 8:00, if the unit power is turned off.
- Between 23:00 and 1:00, the Auto Clock function will not operate even if the unit power is turned off.

Manual Clock Setting

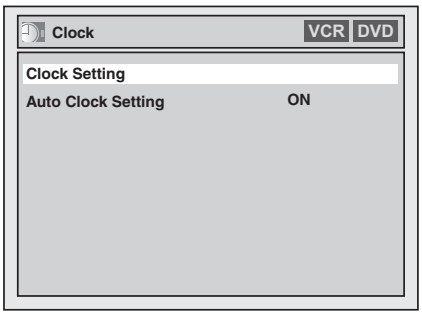
1) In stop mode, press [SETUP].

2) Select "Clock" using [▲ / ▼], then press [ENTER].



Clock menu will appear.

3) Select "Clock Setting" using [▲ / ▼], then press [ENTER].



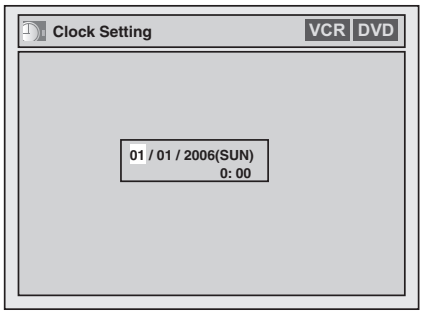
Clock Setting menu will appear.

Press [ENTER] again.

Default date will appear.

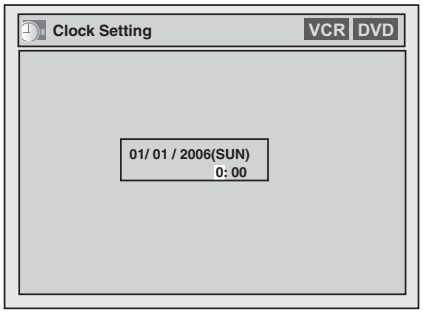
(Continued)

4) Enter the date (day / month / year) using [▲ / ▼].
Press [►] to move the cursor to the next field. If you wish to go back to the previous field, press [◄].



"SUN / MON / TUE / WED / THU / FRI / SAT" will change automatically as the date is entered.

5) Enter the time (hours / minutes) using [▲ / ▼], then press [ENTER].



The clock will start.
- Although seconds are not displayed, they will be counted from zero.

6) Press [SETUP] to exit the Clock menu.

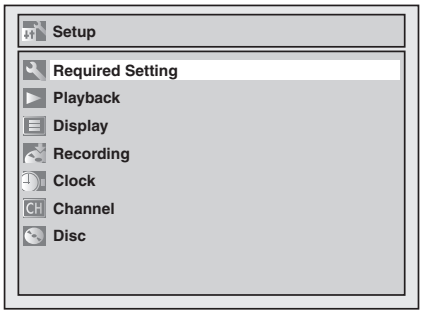
Note
- Your clock setting will be lost if either there is a power failure or the unit is unplugged for more than 30 seconds when the "Auto Clock Setting" is "OFF".

Selecting the TV aspect ratio

You can select the TV aspect ratio to match the format of the programme you are playing back with the unit and that of your TV screen (4:3 standard or 16:9 wide screen TV).

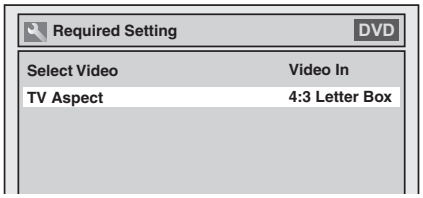
1) In stop mode, press [SETUP].

2) Select "Required Setting" using [▲ / ▼], then press [ENTER].



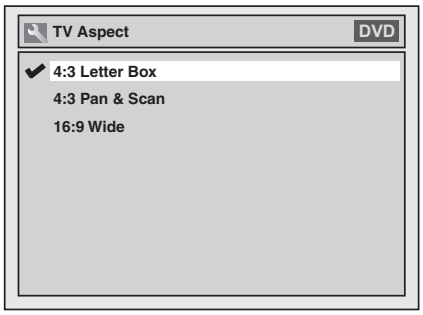
Required Setting menu will appear.

3) Select "TV Aspect" using [▲ / ▼], then press [ENTER].



Option window will appear.

4) Select the desired option using [▲ / ▼], then press [ENTER].



5) Press [SETUP] to exit.

Notes

If you have a standard TV:

- Select "4:3 Letter Box" for a full width picture with black bars at the top and bottom.
- Select "4:3 Pan & Scan" for a full height picture with both sides trimmed.

If you have a widescreen TV:

- Select "16:9 Wide".

Symbols in this Section

The following icons show the playable discs or tapes for each function described in this section.

DVD-RW VIDEO : Video mode DVD-RW disc

DVD-RW VR : VR mode DVD-RW disc

DVD-R : DVD-R disc

VCR : VHS tapes
Use only cassettes marked VHS (VHS) on

Most instructions are based on the remote control operation, unless otherwise noted. You can use the buttons on the remote control and those on the main unit as well when they have the same function.

Recording

Recording variations for many types of programmes or situations.

- **Information on DVD recording**
- **Selecting the Recording format**
- **Basic recording**
- **One-touch Timer Recording**
- **Timer Recording**
- **Settings for an external equipment**
- **Dubbing Mode**
- **Setting disc protection**
- **Finalising discs**

Information on DVD recording

Information

- This unit can record on DVD-R and DVD-RW. You can record on DVD-R only once. On DVD-RW, you can record and erase many times.
- It is possible to record on DVD-R only in Video mode. DVD-RW can record in the format you select from Video mode or VR mode.
- If you want to record repeatedly on the same disc or if you want to edit the disc after recording, use a rewritable DVD-RW type disc.
- If you want to save recordings without any alteration, use a non-rewritable DVD-R type disc.

Logo	Attributes
DVD-RW	8 cm / 12 cm, single-sided, single layer disc Max. recording time (SEP mode, approx.): 600 minutes (4.7 GB) (for 12 cm) 180 minutes (1.4 GB) (for 8 cm)
DVD-R	

Notes

- **This unit cannot record on CD-R or CD-RW discs.**
- DVD-R/RW and CD-R/RW discs recorded on a personal computer or on a DVD or CD recorder may not be played back if the disc is damaged or dirty or if there is condensation on the player's lens.
- If you record a disc using a personal computer, even if it is recorded in a compatible format, it may not be played back because of the settings of the application software used to create the disc. (Check with the software publisher for more detailed information.)
- Discs recorded in Video mode on this unit cannot record additional information using other DVD recorders.
- It is impossible to use a DVD-RW disc formatted with this unit on other DVD recorder unless the content of the disc was also recorded with this unit.
- Since recording is performed using the Variable Bit Rate (VBR) method, the actual remaining time for recording may be a little shorter than the remaining time displayed on the OSD, depending on the picture you are recording.

Recording Mode

■ Recording Mode

You can select a recording mode from 6 options.
The recording time will vary depending on the recording mode you select as follows.

Disc Size	Recording mode	Recording time	Video/Sound Quality
8cm Disc	XP	18 min	★★★★★★
	SP	36 min	★★★★★
	LP	72 min	★★★★
	EP	108 min	★★★
	SLP	144 min	★★
	SEP	180 min	★
12cm Disc	XP	60 min	★★★★★★
	SP	120 min	★★★★★
	LP	240 min	★★★★
	EP	360 min	★★★
	SLP	480 min	★★
	SEP	600 min	★

- This table is intended for a standard new single-sided 12 cm/8 cm disc. The recording times listed above are estimates and are for reference purpose only. Actual recording time may vary.
- The audio and video quality of content being recorded may degrade depending on your chosen recording mode.

Restrictions on recording

You cannot record copy-protected video using this unit. Copy-protected video includes DVD-Video discs and some satellite broadcasts.

If copy-protected material is detected, recording will pause or stop automatically and an error message appears on the screen.

You can only record "Copy-once only" video using a DVD-RW disc in VR mode with Content Protection for Recordable Media (CPRM).

When recording a TV broadcast or an external input, you can display copy control information on the screen.

What is "CPRM"?

CPRM is a scrambling copy protection system for the protection of "copy-once" broadcast programmes. This unit is CPRM compatible, which means that you can record copy-once broadcast programmes, but you cannot make a copy of those recordings. CPRM recordings can only be played back on DVD players that are specifically compatible with CPRM.

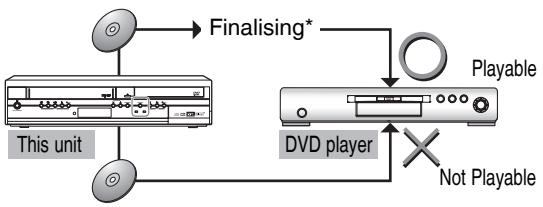
Information on copy control

Some satellite broadcasts include copy-protected information. If you wish to record them, refer to the following.

Disc type/Format			Copy-free	Copy-once	Copy-prohibited
DVD-RW	VR mode	ver.1.1,1.2	★	—	—
		ver.1.1,1.2 CPRM compatible	★	★	—
	Video mode	ver.1.1,1.2	★	—	—
		ver.1.1,1.2 CPRM compatible	★	—	—
DVD-R	Video mode	ver.2.0	★	—	—

★ Recordable — Not Recordable

Making discs playable in other DVD player (Finalise)



* You cannot finalise discs recorded in other DVD recorders.

After recording, you must finalise the disc to play it back in other players. (See pages 63-64.)
You cannot finalise discs in other DVD recorders.

After finalising:

- After DVD-R discs are finalised:
  - A Title menu is created automatically.
  - Undo finalising is impossible.
  - Additional recording or editing is impossible.
- After DVD-RW (Video mode) discs are finalised:
  - A Title menu is created automatically.
  - Undo finalising is possible. (See page 64.)
  - Additional recording or editing is possible if you undo finalise. (See page 64.)
- After DVD-RW (VR mode) discs are finalised:
  - A Title menu is not created.
  - Undo finalising is possible. (See page 64.)
  - Additional recording or editing is possible even without undo finalising.

Selecting the Recording format

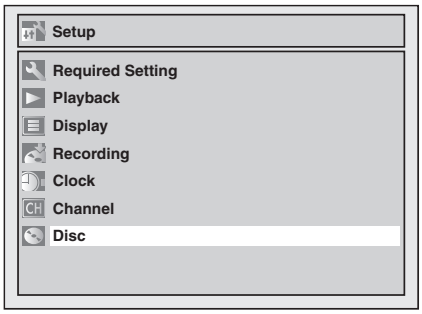
Choosing the recording format of a blank disc

DVD-RW VIDEO | DVD-RW VR

When inserting a blank disc, the unit automatically starts to initialise the disc. You can also manually format a DVD-RW disc if you wish to reuse it.

1 **In stop mode, press [SETUP].**

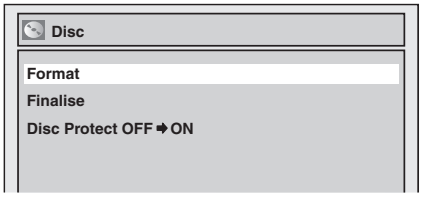
2 **Select "Disc" using [▲ / ▼], then press [ENTER].**



Disc menu will appear.

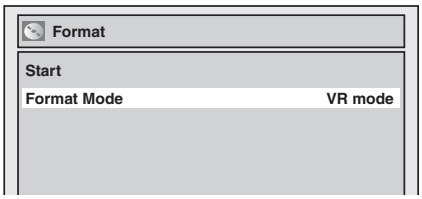
3 **Select "Format" using [▲ / ▼], then press [ENTER].**

<e.g. VR mode>



Format menu will appear.

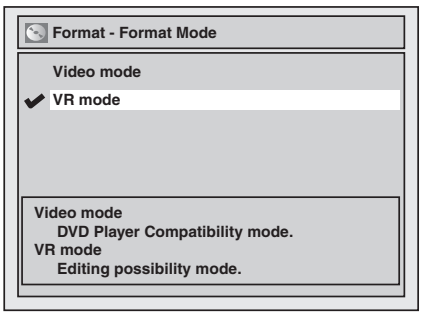
4 Select “Format Mode” using [▲ / ▼], then press [ENTER].



“VR mode” has been selected as the default.

5 Select “Video mode” or “VR mode” using [▲ / ▼], then press [ENTER].

The recording format will be set.



6 Press [SETUP] to exit.

7 Insert a blank disc.

Formatting will start.

8 Formatting is complete.

“100%” is indicated.

Notes

- The recording format setting is effective only for DVD-RW discs. You cannot change the recording format for a DVD-R disc. DVD-R discs are always in Video mode.
- **You cannot mix two formats on one DVD-RW disc. If you insert a disc that has been recorded before, the recording format cannot be changed even if you change it in the Setup menu.**
- If a blank DVD+R or DVD+RW disc is inserted, the error message “Disc Error” will appear.

Reformatting a disc

DVD-RW VIDEO | DVD-RW VR

If you are using a DVD-RW disc, you can format the disc by performing "Format". By default it will be in VR mode. You can change this to Video mode in the Setup menu.

Insert a recordable disc.

Make sure that the recording format is set to the desired mode (Follow the steps 1 to 6 on pages 40-41).

1) In stop mode, press [SETUP].

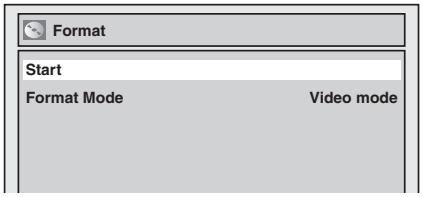
2) Select "Disc" using [▲ / ▼], then press [ENTER].

Disc menu will appear.

3) Select "Format" using [▲ / ▼], then press [ENTER].

Format menu will appear.

4) Select "Start" using [▲ / ▼], then press [ENTER].

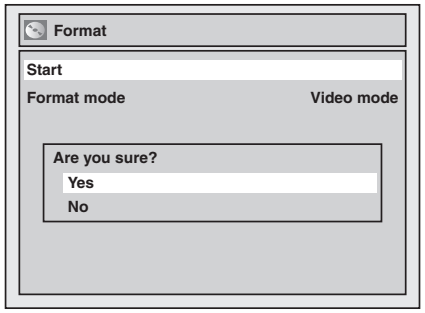


A popup window will appear and prompt you to confirm.

5) Select "Yes" using [▲ / ▼], then press [ENTER].

Formatting will start.

If you want to cancel formatting, select "No".



6) Formatting is complete.

"100%" is indicated.

This operation may take awhile to be completed.

Notes

- When you reformat the disc, the contents of the disc are erased.
- It is impossible to record on a disc formatted with this unit in other DVD recorder. When you record a disc with another DVD recorder, format a disc using that DVD recorder.

Setting Auto Chapter

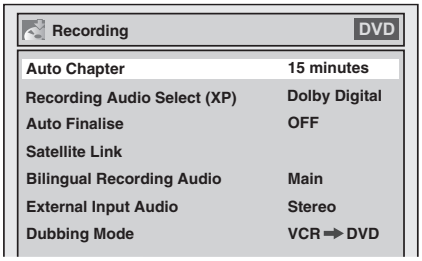
DVD-RW VIDEO | DVD-RW VR | DVD-R

The unit inserts a chapter mark periodically (every 15 minutes by default) during recording. Using the Auto Chapter menu, you can set this function off or change the time period.

1) In stop mode, press [SETUP].

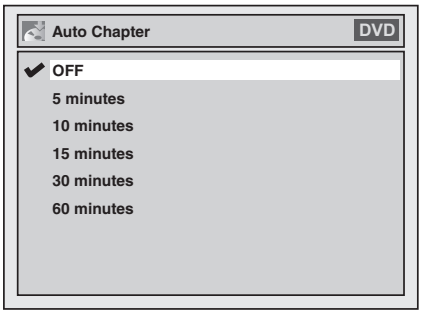
2) Select "Recording" using [▲ / ▼], then press [ENTER].

3) Select "Auto Chapter" using [▲ / ▼], then press [ENTER].



Option window will appear.

4) If you wish to set "Auto Chapter" to off, select "OFF" using [▲ / ▼], then press [ENTER].



If you wish to change the time period for Auto Chapter, select the required time period using [▲ / ▼], then press [ENTER].

5) Press [SETUP] to exit.

Note

- You cannot set or clear chapter markers on DVD-R discs manually.

Selecting the Sound mode

This unit can receive bilingual broadcasts.

You can switch between modes by pressing [AUDIO] on the remote control. Each mode is indicated on the TV screen as follows.
• During reception of bilingual broadcasts

Mode	Audio output	Display on the TV screen
Main	Main audio from both speakers	Main
Sub	Sub audio from both speakers	Sub
Main / Sub	• Main audio from the left speaker • Sub audio from the right speaker	Main / Sub

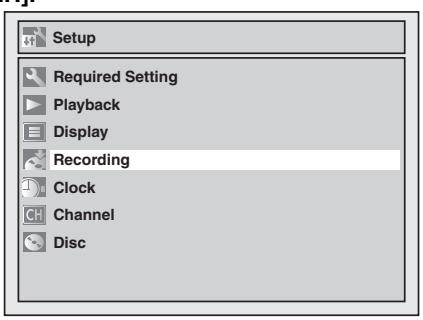
Recording Audio Select (XP)

DVD-RW VIDEO | DVD-RW VR | DVD-R

You can enjoy high quality sound recording. This function works only when the recording mode is set to XP.

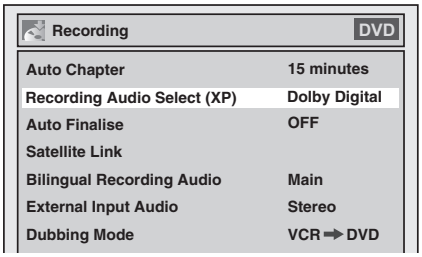
1) Press [SETUP].

2) Select "Recording" using [▲ / ▼], then press [ENTER].



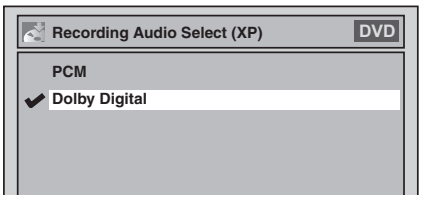
Recording menu will appear.

3) Select "Recording Audio Select (XP)" using [▲ / ▼], then press [ENTER].



Option window will appear.

4) Select "PCM" or "Dolby Digital" using [▲ / ▼], then press [ENTER].
"Dolby Digital" is selected as a default.



PCM:
Records PCM audio for the best quality sound.
Dolby Digital:
Records Dolby Digital audio for good quality sound.

5) Press [SETUP] to exit.

Notes
- "PCM" stands for Pulse Code Modulation. It changes analogue sound to digital sound without compressing audio data.
- When the recording mode is set to other than XP, the unit records "Dolby Digital" audio automatically even if you selected "PCM".

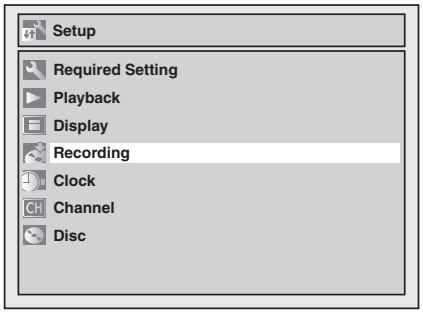
Setting External Input Audio

DVD-RW VIDEO | DVD-RW VR | DVD-R

When the external input audio is a bilingual broadcast, you can choose "Stereo" or "Bilingual" to record on a DVD.

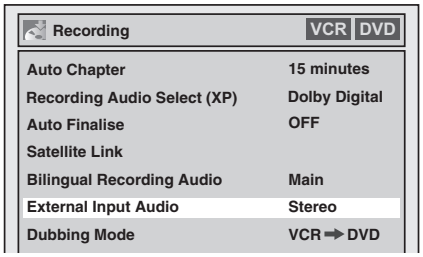
1) In stop mode, press [SETUP].

2) Select "Recording" using [▲ / ▼], then press [ENTER].

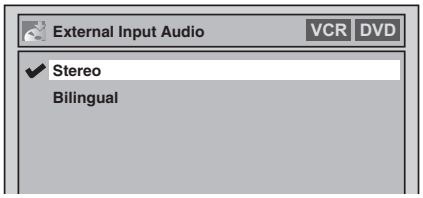


Recording menu will appear.

3) Select "External Input Audio" using [▲ / ▼], then press [ENTER].



4) Select "Stereo" or "Bilingual" using [▲ / ▼], then press [ENTER].
"Stereo" is selected as a default.



5) Press [SETUP] to exit.

Notes

- If you select "Stereo":
  The audio will be recorded as stereo audio.
- If you select "Bilingual":
  The audio will be recorded as bilingual audio (see "Setting Bilingual Recording Audio" for more detail).

Setting Bilingual Recording Audio

DVD-RW VIDEO | DVD-R

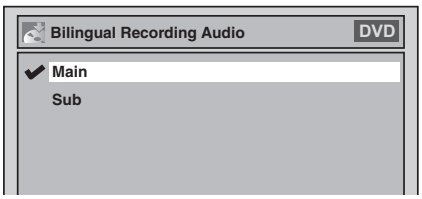
You can select either "Main" or "Sub" audio to record a bilingual broadcast in Video mode.

1) In stop mode, press [SETUP].

2) Select "Recording" using [▲ / ▼], then press [ENTER].

3) Select "Bilingual Recording Audio" using [▲ / ▼], then press [ENTER].

4) Select "Main" or "Sub" using [▲ / ▼], then press [ENTER].



5) Press [SETUP] to exit.

Note

- If you are recording onto a VR mode disc, both "Main" and "Sub" will be recorded regardless of your setting here. And when you play back, you can choose either audio format or a combination of both as your playback audio.

Basic recording

DVD-RW VIDEO | DVD-RW VR | DVD-R

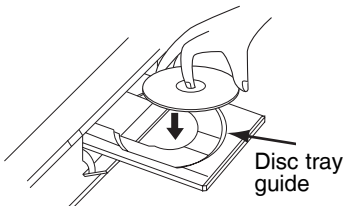
Follow the steps below to record a TV programme.

1 **Press [I/⏻ ON/STANDBY] to turn on the unit.**

Turn on the TV and be sure to select the input to which the unit is connected.

2 **Press [DVD].**
Press [OPEN/CLOSE ⏏] to open the disc tray.

3 **Place the disc on the disc tray with its label facing up. Be sure to align the disc with the disc tray guide.**



4 **Press [OPEN/CLOSE ⏏] to close the disc tray.**

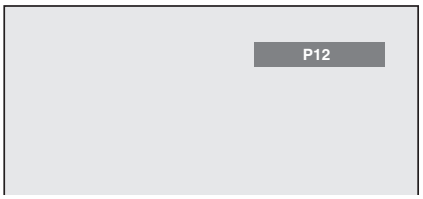
This operation may take awhile to be completed.

5 **Select the recording mode using [REC MODE].**

Refer to “Recording Mode” on page 38.

(Continued)

6 Select the desired channel to record using [PROG. ∧/∨] or [the Number buttons].



7 Press [REC ●] to start recording.

The "●" mark will be displayed for 5 seconds.

To pause the recording, press [PAUSE ❚❚]. Press [PAUSE ❚❚] or [REC ●] again to resume the recording.

8 Press [STOP ■] to stop the recording.

This operation may take awhile to be completed.

Notes

- You can change the channel while in the REC pause mode.
- Recording starts immediately and continues until the disc is full or you stop recording.
- If the clock is not set, the date and time space next to title names in the Original or Playlist will be blank.
- You cannot change the recording mode while in the REC or REC pause mode.
- Even if the broadcasting you are recording is in the SECAM system, this unit automatically converts it to the PAL system when recording.
- If you want to monitor the programme that you are recording, make sure the device such as a set top box is turned off when it is connected to AV2.

One-touch Timer Recording

DVD-RW VIDEO | DVD-RW VR | DVD-R

This is a simple way to set the recording time in blocks of 30 minutes. Check that the disc you are recording onto has enough space remaining for the time you set.

1 Turn on the unit and insert a recordable disc.

Make sure that the TV input is set on the unit.

This operation may take awhile to be completed.

2 Press [DVD]. Select the recording mode using [REC MODE].

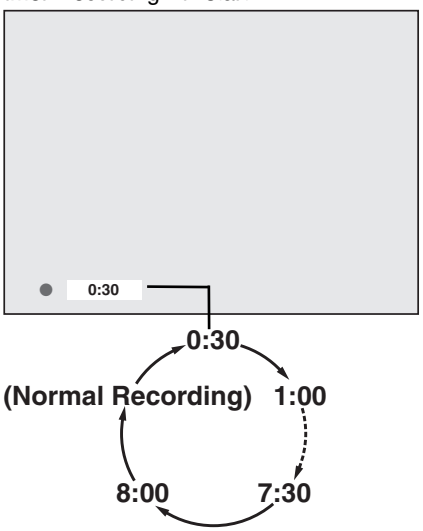
Refer to “Recording Mode” on page 38.

3 Select the desired channel to be recorded using [PROG. ∧/∨] or [the Number buttons].

(Continued)

4 Press [REC ●] repeatedly until the desired recording time (30 minutes to 8 hours) appears on the TV screen.

One-touch Timer Recording will start.



When the unit reaches the specified time, "Writing to Disc" will appear. It may take awhile to write the data onto a disc and then it will be turned off automatically.

To change the recording length during the One-touch Timer Recording, press [REC ●] repeatedly until the desired length appears.

To cancel the One-touch Timer Recording within the specified time, press [STOP ■].

"Wait for a moment." will appear and the operation may take awhile to be completed.

Notes

- **The remaining recording time will appear on the TV screen during One-touch Timer Recording. Press [DISPLAY] to see it on the TV screen.**
- The remaining recording time will be displayed on the front panel display during One-touch Timer Recording.
- Unlike the timer recording, you can perform the following operations during One-touch Timer Recording.
  - Turn off the power.
  - Use [REC ●] or [STOP ■].
- You cannot use the pause function during One-touch Timer Recording.
- The unit will be turned off automatically under the following conditions.
  - No space remains on the disc.
  - If a power failure occurs.
- If DVD One-touch Timer Recording is completed during VCR playback or recording, the DVD will be in stop mode and the VCR keeps the current mode.
- When One-touch Timer Recording is finished and the power is turned off, the unit will switch to the timer-standby mode automatically if a timer recording has been programmed. Press [T-SET] to cancel the timer-standby mode to use the unit continuously.
- If you want to monitor the programme that you are recording, make sure the device such as a set top box is turned off when it is connected to AV2.

Timer Recording

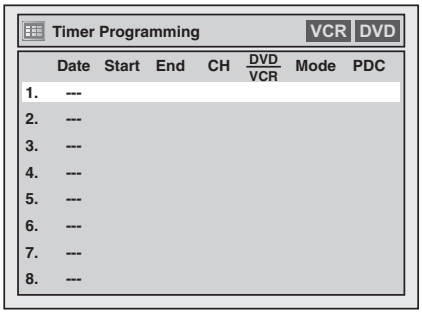
DVD-RW VIDEO | DVD-RW VR | DVD-R | VCR

You can set the unit to record up to 8 programmes, up to a month in advance. Daily or weekly programme recordings are also available.

- **Be sure to set the clock before entering a timer programming.**
- **Insert a recordable disc or tape.**

1 Insert a recordable disc or tape. In stop mode, press [TIMER PROG].

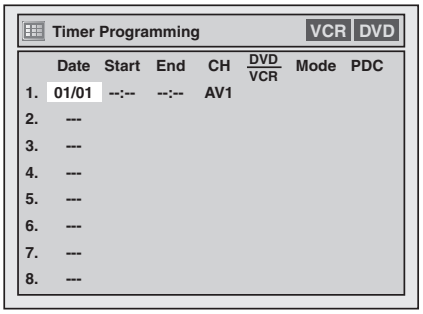
Timer Programming list will appear.



2 Select a programme using [▲ / ▼], then press [ENTER].

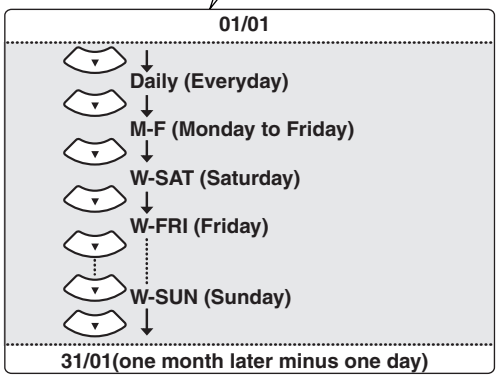
(Continued)

3 Enter the date using [▲ / ▼], then press [►].

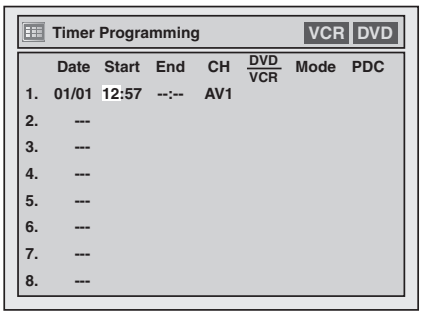


Each time you press [▼] at the current date, the timer recording date will change as follows.

<e.g. 1st January>



4 Enter the time to start and to end using [▲ / ▼], then press [►].



5 Select the channel number to record using [▲ / ▼], then press [►].

Timer Programming VCR DVD

	Date	Start	End	CH	DVD / VCR	Mode	PDC
1.	01/01	12:57	13:57	P08			
2.	---						
3.	---						
4.	---						
5.	---						
6.	---						
7.	---						
8.	---						

To record from the external input, select “AV1”, “AV2” or “AV3”.

6 Select the recording media (“DVD” or “VCR”) using [▲ / ▼], then press [►].

Timer Programming VCR DVD

	Date	Start	End	CH	DVD / VCR	Mode	PDC
1.	01/01	12:57	13:57	P08	DVD		
2.	---						
3.	---						
4.	---						
5.	---						
6.	---						
7.	---						
8.	---						

7 Select the recording mode using [▲ / ▼], then press [►].

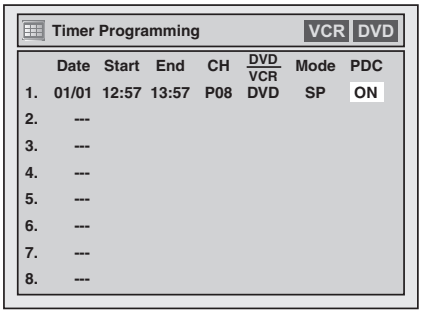
Timer Programming VCR DVD

	Date	Start	End	CH	DVD / VCR	Mode	PDC
1.	01/01	12:57	13:57	P08	DVD	SP	
2.	---						
3.	---						
4.	---						
5.	---						
6.	---						
7.	---						
8.	---						

Refer to “Recording Mode” on page 38 for DVD or page 128 for VCR.

(Continued)

8 Select PDC to "ON" or "OFF" using [▲ / ▼]. (See page 54.)



9 Press [ENTER] when all information required is entered.

Your programme setting is stored.

- To set another programme, repeat steps 2 to 9.
- To exit, press [TIMER PROG].
- If the recording times of two or more programmes overlap, "Overlap" and overlapped programme numbers are displayed. (See pages 53-55.)

10 Press [T-SET].

The ⏲ icon will appear on the front panel display and the unit is set to the timer-standby mode.

- Timer Recording will not work when the power is on.
- When power is on, programmes registered for recording in Timer Recording will be automatically cleared after the end time and date have passed.

To stop the timer recording in progress

Press [■ (STOP)] on the front panel to stop the disc recording.

Press [▲ / ■ (EJECT / STOP)] on the front panel to stop the tape recording.

- [STOP ■] on the remote control is not effective.

Notes

- If you have not set the clock, the clock setting window will appear instead of the Timer Programming list at step 1. In this case, press [ENTER]. Then continue from step 4 in "Manual Clock Setting" on page 34 before programming the timer recording.
- Press [◄ / ►] to move the cursor in the timer programming list.
- If a basic recording or One-touch Timer Recording is in progress on one component (e.g. VCR) and the timer recording set for the other component (e.g. DVD) is about to begin, the unit automatically switches to the programmed channel for timer recording 2 minutes before the programmed starting time, and the recording in progress (for VCR) will be cancelled UNLESS their recording channels are the same. If their recording channels are the same, the timer recording will start without cancelling the recording currently in progress. In this case, the recording of the same channel will be made on both DVD and VCR.
- Cancel the timer-standby mode by pressing [T-SET] before operation for either DVD or VCR. When finished operating, press [T-SET] to resume the timer-standby mode.

If PDC is "ON":

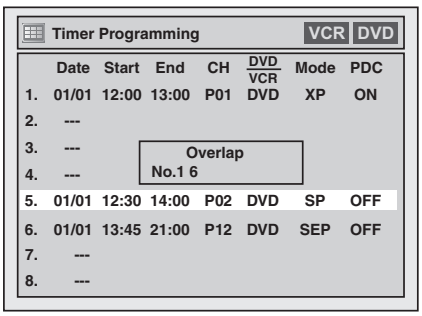
- In the timer-standby mode, you can neither turn on the power nor use the component (VCR or DVD) which is not currently timer-programmed.

If PDC is "OFF":

- In the timer-standby mode, you can turn on the power and use the component (VCR or DVD) which is not currently timer-programmed.

Checking, cancelling, or correcting the timer programming information

In the following example, No. 5 timer programming overlaps on No. 1 and No. 6 timer programmes. In such a case, you should correct the programme time to clear the overlap.



1) Press [T-SET] so that the ⏲ icon disappears from the front panel display.

2) Press [TIMER PROG].
Timer Programming list will appear.

3) Check the information on the list to be edited.

4) To clear the timer programming, select the desired programme using [▲ / ▼], then press [CLEAR].

To correct the timer programming

1) Select the desired programme using [▲ / ▼], then press [ENTER].
2) Correct the timer programming using [▲ / ▼ / ◄ / ►].
3) Press [ENTER] again.

5) Press [TIMER PROG] to exit.

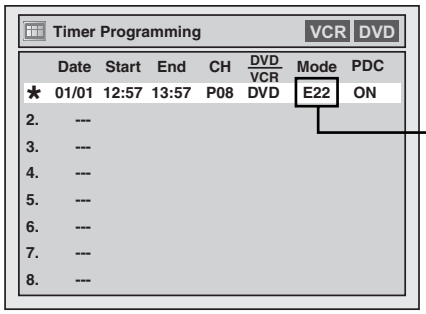
6) Press [T-SET] to return to the timer-standby mode.

Note

- If a timer recording is proceeding, that programme is highlighted in red. In such a case, you cannot select any other programmes.

If the timer programming did not complete correctly

The error number appears on the Timer Programming list.



The error programme will be displayed in grey with an asterisk and have an error number.

The error numbers indicate:

E1–E22, E37–E39: Recording error

E23–E24: Unrecordable disc

E25: • Copy prohibited programme
• Cannot record because of the NTSC / PAL-60 signal is received.

E26–E28: Copy prohibited programme

E29: Disc protected

E30: Disc full

E31: Already recorded 99 titles (Video mode)

E32: Already recorded 99 titles (VR mode)

E33: Already recorded 999 chapters

E34: No space for Control Information

E35: PCA (Power Calibration Area) full

E36: Already finalised Video format disc

E40: • There are some unrecorded parts due the overlapped timer programmes.
• Recording did not start at the start time.

E41: Power failure

E42: No disc

The error programme will be deleted once you check the error in the programme list, or once you cancel the timer-standby mode and re-enter it.

Press [CLEAR] to erase the selected programme.

PDC (Programme Delivery Control)

The Programme Delivery Control (PDC) assures that the TV programmes you have programmed for timer recording are recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to a delayed start or extension of the programme duration. Furthermore, if a programme is interrupted, the recording will also be interrupted automatically and resumed when the programme starts again.

If the PDC signal drops out because the broadcast signal is weak, or if a broadcasting station does not transmit a regular PDC signal, the timer recording is performed in normal mode (without PDC) even if it was programmed for PDC. If the starting time of the PDC timer recording is between 0:00 and 3:59 on a given day, the PDC function will operate from 20:00 on the previous day to 4:00 on the next day. If the starting time of the PDC timer recording is between 4:00 and 23:59 on a given day, the PDC function will operate from 0:00 on the given day to 4:00 on the next day. This means that if the relevant programme is broadcasted within this period, it is recorded correctly. If the timer is not programmed correctly, the incorrect timer setting stays in effect unless you cancel it. To cancel an incorrect timer setting, refer to "Checking, cancelling, or correcting the timer programming information" on page 53.

Hints for Timer Recording

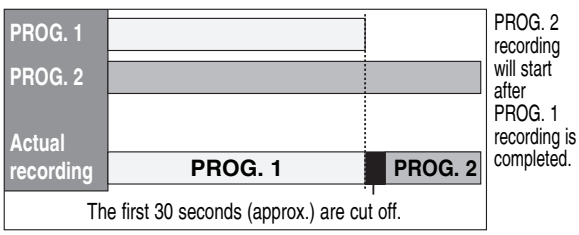
- If there is a power failure or the unit is unplugged for more than 30 seconds, the clock setting and all timer settings will be lost.
- If there is no disc or an unrecordable disc in the tray, the ⏲ icon will flash and timer recording will not occur. Insert a recordable disc.
- If there is no tape or a tape with a record tab is not in the cassette compartment, VCR flashes in the front panel display and timer recording cannot be performed. Please insert a recordable tape.
- When all timer recordings are complete, the ⏲ icon flashes. To play back or eject the recorded disc, press [T-SET], and then press [PLAY ▶] or [OPEN/CLOSE ⏏].
- The timer recording cannot be performed in DVD and VCR at the same time. If you set two programmings with the same channel and time both in DVD and VCR, the programming that has priority will be recorded.
- You cannot make any DVD operation during DVD timer recording.
- You cannot make any VCR operation during VCR timer recording.
- If the Start and End times are the same, the length of the recording will be set for 24 hours. If the disc becomes full during recording, the unit will turn itself off. To continue recording, press [T-SET] to cancel the timer-standby mode, insert a recordable disc and press [T-SET] again.
- If two or more programmes overlap, “Overlap” and the overlapped programme number will appear on the display.
- If the Start time is earlier and the End time is later than the current time, the recording will start immediately after you press [T-SET].
- If a videotape ends during timer recording, the unit will automatically stop, eject the videotape, and turn itself off. To continue recording, insert a recordable tape.
- If you turn on the unit in the timer-standby mode, only the component (DVD or VCR) which is not currently timer-programmed can be operated.
  The unit will return to the timer-standby mode when the power is turned off.

■ The priority of overlapped settings

The unit records programmes according to priority if the timer programmes overlap.

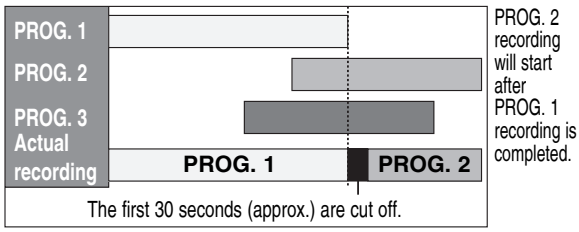
■ If the starting time is same:

- The timer programming set first (PROG. 1) has priority.


PROG. 1
PROG. 2
Actual recording
PROG. 1
PROG. 2
PROG. 2 recording will start after PROG. 1 recording is completed.
The first 30 seconds (approx.) are cut off.

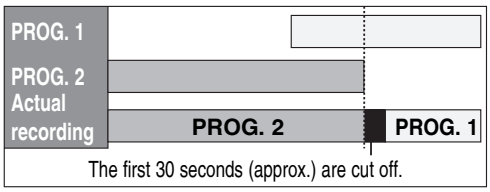
■ If programming has been made at the end of the programming (PROG. 1) currently being recorded:

- The timer programming set first (PROG. 2) has priority. PROG. 3 will not be recorded.



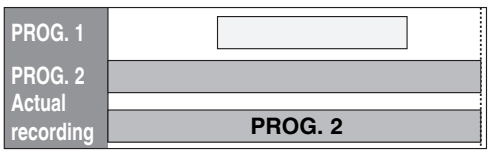
■ If the recording time is partially overlapped:

- The timer programming with the earlier start time (PROG. 2) has priority. PROG. 1 will start after PROG. 2 recording is complete.



■ If the recording time entirely overlaps:

- The shorter timer programming (PROG. 1) is not recorded.

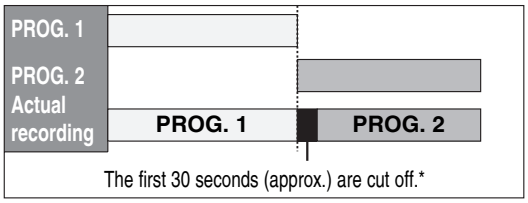


■ Note for DVD recording

- If the recording time of two programmes overlap, or the End time of a programme and the Start time of another is same, the first 30 seconds (approx.) of the subsequent programme are cut off.

■ If the End time of the programme currently being recorded and the Start time of the subsequent programme are same:

- If PROG. 1 is a DVD recorded programme, the beginning of PROG. 2 may be cut off.



* If the cut off time exceeds 1 minute, the error number “E40” will appear in the Timer Programming list.

Satellite Link

You can set the unit to start recording whenever it detects the scart control signal from the external tuner.

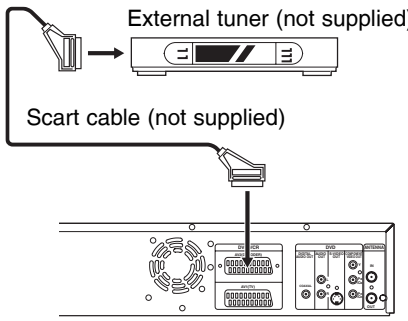
Preparing for the Satellite Link Timer Recording:

[Preparation of your set top box]

- **The external tuner should be equipped with some kind of timer function. Using timer function of the tuner, set it to be turned on when it comes to the time you want to start recording, and off when it comes to the time you want to finish recording. (Refer to the tuner's manual on how to set the timer.)**
- **Make sure to turn off the set top box when you finish setting.**

[Preparation on this unit]

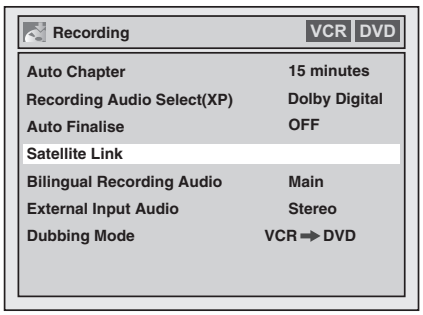
- Make sure to select the desired Recording mode beforehand.



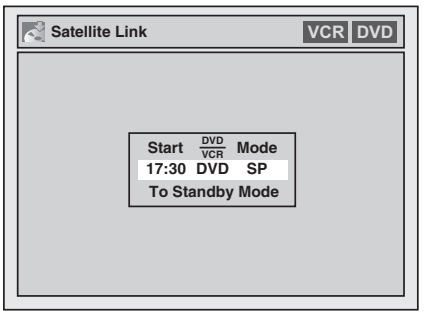
1) Press [SETUP].

2) Select "Recording" using [▲ / ▼], then press [ENTER].

3) Select "Satellite Link" using [▲ / ▼], then press [ENTER].
Satellite Link window will appear.



4) With start time, DVD/VCR and the recording mode highlighted, press [ENTER].



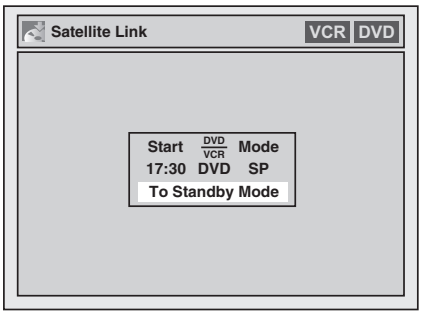
5) Set the desired start time using [▲ / ▼ / ◀ / ▶].

- Change the value for the hour using [▲ / ▼], then confirm with [▶].
- Change the value for the minute using [▲ / ▼], then confirm with [▶].
- The hour can be selected between 0 to 23.
- If you wish to go back to the left, press [◀].

6) Select DVD/VCR using [▲ / ▼], then press [▶].

7) Select the desired recording mode using [▲ / ▼], then press [ENTER].
Refer to page 38 for DVD or page 128 for VCR.

8) With "To Standby Mode" highlighted, press [ENTER] again.



In a second, the unit will be turned off automatically as it goes into the Satellite Link standby mode.

- Until the time you set in "Start", the clock will appear on the front panel display.
- "sat" will appear on the front panel display at the start time.

To cancel the Satellite Link function while in the Satellite Link standby mode:
Press [T-SET] to turn on the unit.

To cancel the Satellite Link function while the Satellite Link Timer Recording is in progress:
Press [STOP ■] on the front panel.

Notes

- If you have not set the clock, the clock setting window will appear at step 3. In this case, press [ENTER]. Then continue from step 4 in “Manual Clock Setting” on page 34 before programming the timer recording.
- You cannot set the End time for the Satellite Link Timer Recording on this unit.
- Recording picture will be distorted if the copy protection signal is being detected during Satellite Link Timer Recording.
- When a regular Timer Recording and the Satellite Link Timer Recording are overlapped:

	Example 1
Timer Recording Satellite Link	
Actual Recording	

	Example 2
Timer Recording Satellite Link	
Actual Recording	

	Example 3
Timer Recording Satellite Link	
Actual Recording	

Settings for an external equipment

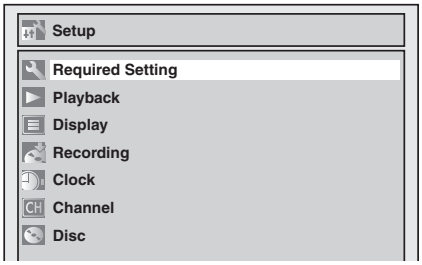
Connection to an external equipment

DVD-RW VIDEO | DVD-RW VR | DVD-R | VCR

Connect the external equipment using either the input jacks, AV1, AV2 (Rear) or AV3 (Front). However, for AV3 jacks, you have to select S-VIDEO input or VIDEO input jack depending on the connected devices.
Use a commercially available Scart, S-Video or Video cable and an Audio cable for this connection.

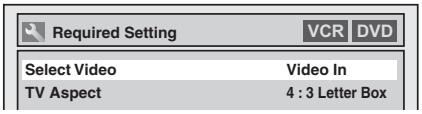
1 **In stop mode, press [SETUP].**

2 **Select “Required Setting” using [▲ / ▼], then press [ENTER].**



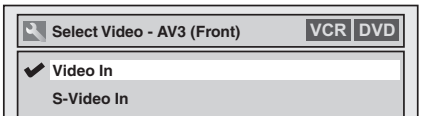
Required Setting menu will appear.

3 **Select “Select Video” using [▲ / ▼], then press [ENTER].**



4 **Select the input jack type to be used using [▲ / ▼], then press [ENTER].**

<e.g. AV3 (Front)>

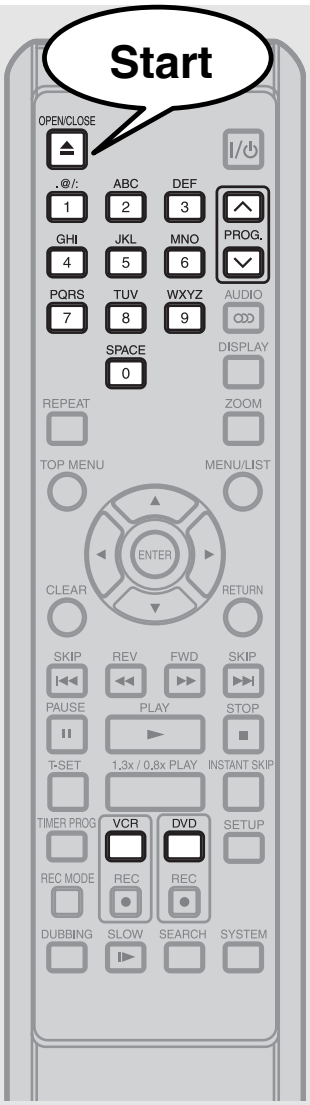


- If you want to use VIDEO input jack (Composite), select “Video In”.
- If you want to use S-VIDEO input jack, select “S-Video In”.

5 **Press [SETUP] to exit.**

Recording from an external equipment

DVD-RW VIDEO | DVD-RW VR | DVD-R | VCR



Before recording from external equipment, see page 27 for connection instructions.

1 **Turn the TV and the unit on, and select the input of the TV to which the unit is connected.**

2 **When you want to record to the disc:**

Press [DVD].

Press [OPEN / CLOSE ⏏] to open the disc tray, then place the disc to record on.

Press [OPEN / CLOSE ⏏] again to close the disc tray.

When you want to record to a tape:

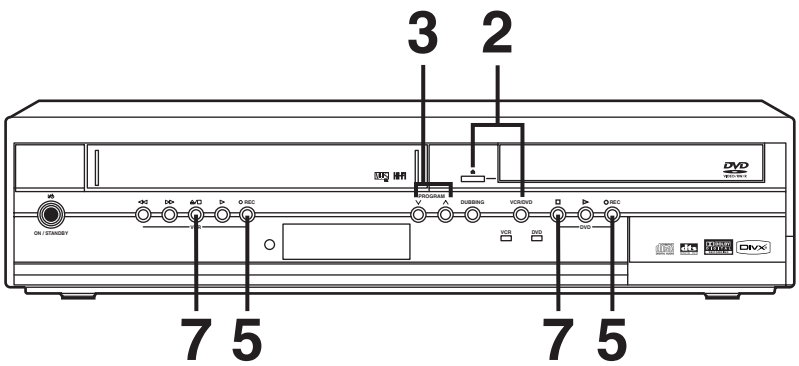
Press [VCR].

Insert the tape with a record tab into the cassette compartment.

This operation may take awhile to be completed.

3 **Select the input terminal to which the external equipment (AV1, AV2 or AV3) is connected using [PROG. ∧/∨] or [the Number buttons].**

- To use the input jacks on the back of the unit, select the “AV1” or “AV2” position by pressing [0], [0], [1] or [0], [0], [2] on the remote control or using [PROG. ∧/∨].
- To use the input jacks on the front of this unit, select “AV3” position by pressing [0], [0], [3] on the remote control or using [PROG. ∧/∨].



4 **Select a recording mode using [REC MODE].**

Refer to "Recording Mode" on page 38 for DVD or page 128 for VCR.

5 **Press [● REC] on the unit to start recording.**

6 **Press the PLAY button on the external recording component.**

7 **For disc:**

Press [■ (STOP)] on the unit to stop recording.

For tape:

Press [▲ / ■ (EJECT/STOP)] on the unit to stop recording.

This operation may take awhile to be completed.

Notes

- During recording, if a signal other than PAL is detected (such as NTSC), recording is paused.
- If you want to monitor the programme that you are recording, make sure the device such as a set top box is turned off when it is connected to AV2.

Dubbing Mode

Dubbing Mode

DVD-RW VIDEO | DVD-RW VR | DVD-R | VCR

You can copy a DVD disc to a videotape or copy a videotape to a DVD disc. This function will be available only if the DVD disc or the tape is not copy protected. Before starting this function, prepare for the recording on the DVD-R/RW disc or the videotape. See pages 38 and 128.

Note for recording to a tape:
- The tape's record tab is intact.
- The videotape is long enough to record the DVD disc.

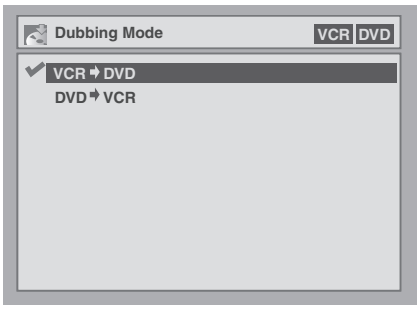
Note for recording to a disc:
- The DVD disc is appropriate for the recording status. See pages 10 and 38.

Insert a disc and a tape with a record tab.

1) In stop mode, press [SETUP].
2) Select "Recording" using [▲ / ▼], then press [ENTER].
3) Select "Dubbing Mode" using [▲ / ▼], then press [ENTER].
Option window will appear.

VCR to DVD

4) Select "VCR ➡ DVD" using [▲ / ▼], then press [ENTER].

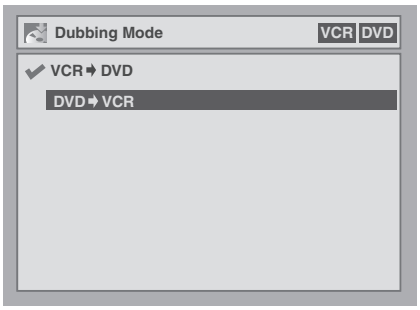


5) Press [SETUP] to exit the setup menu.
6) Press [DVD].
Make sure to select a recording mode using [REC MODE]. (See page 38.)
7) Press [VCR].
8) Press [► (PLAY)] (VCR) on the unit, and then press [PAUSE ❚❚] at the point you wish to start recording.
9) Press [DUBBING].
VCR to DVD duplication will start.
10)Press [STOP ■] to stop the recording.

Note For VCR to DVD duplication:
- After starting VCR to DVD duplication, the picture may be distorted because of the auto tracking function. This is not a malfunction. Be advised to play back the tape until the picture is stabilized, then set the starting point which you wish to start recording, and start VCR to DVD duplication.
- This unit will automatically stop the duplication if playback with no image detected for more than 3 minutes during VCR to DVD duplication.
- If the playback sound mode of VCR is set to "STEREO," "LEFT" or "RIGHT," the sound mode upon dubbing is automatically switched to "STEREO." If the playback sound mode is set to "MONO," the sound mode upon dubbing is also "MONO."
- If you set "External input Audio" to "Stereo," the sound is recorded in "Stereo" (both Video mode and VR mode).
- While in video mode, if you set "External input Audio" to "Bilingual," the audio set in "Bilingual Recording Audio" mode is recorded.
- While in VR mode, if you set "External input Audio" to "Bilingual," bilingual audio is recorded.
The main and sub audio will be simultaneously recorded (VR mode). You can select audio modes during playback.

DVD to VCR

4) Select "DVD ➡ VCR" using [▲ / ▼], then press [ENTER].



5) Press [SETUP] to exit the setup menu.
6) Press [VCR].
Make sure to select a recording mode using [REC MODE]. (See page 128.)
7) Press [DVD].
8) Press [► (PLAY)] (DVD) on the unit, and then press [PAUSE ❚❚] at the point you wish to start recording.
9) Press [DUBBING].
DVD to VCR duplication will start.
10)Press [STOP ■] to stop the recording.

Notes
- When you turn off the unit after setting the Dubbing Mode to "DVD ➡ VCR", the setting will be set to "VCR ➡ DVD" automatically.
- Dubbing Mode is available only if the tape or disc is not copy protected.
- You cannot change the output mode during VCR to DVD or DVD to VCR duplication.

Setting disc protection

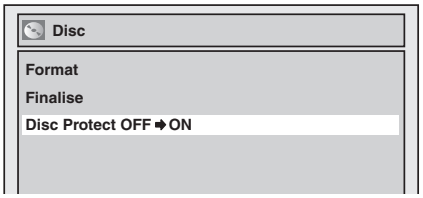
DVD-RW VR

To prevent accidental over-recording, editing or erasing of recordings, you can protect them using the Setup menu.

1 **Insert a recordable disc.**
In stop mode, press [SETUP].

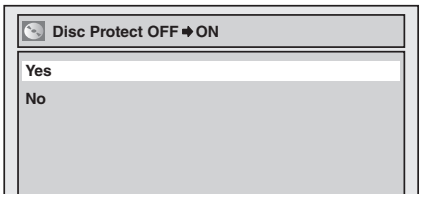
2 **Select “Disc” using [▲ / ▼], then press [ENTER].**
Disc menu will appear.

3 **Select “Disc Protect OFF ➡ ON” using [▲ / ▼], then press [ENTER].**



Confirmation window will appear.

4 **Select “Yes” using [▲ / ▼], then press [ENTER].**
The disc is protected.

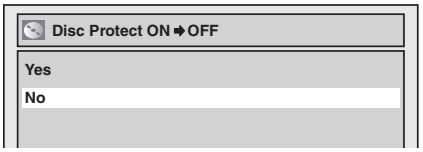


Notes

- The Disc Protect setting is available only when a disc recorded in VR mode is inserted.
- You can select only “Disc Protect ON ➡ OFF” when a protected disc is inserted.

To cancel the disc protection:

- Select “Disc Protect ON ➡ OFF” at step 3, then select “Yes”.
- If you insert a disc protected with this unit, “Disc Protect ON ➡ OFF” will appear instead of “OFF ➡ ON”.



Finalising discs

DVD-RW VIDEO | DVD-RW VR | DVD-R

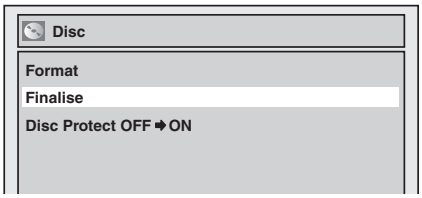
You will need to finalise discs to play them back in other players.
Finalising may take from several minutes up to an hour. (A disc recorded in Video mode can take up to 15 minutes. A disc recorded in VR mode can take up to 60 minutes.)
A shorter recording period on the disc will require a longer time period for finalisation. Do not unplug the mains cable during finalisation.

1 Insert a recordable disc before finalising. In stop mode, press [SETUP].

2 Select "Disc" using [▲ / ▼], then press [ENTER].

Disc menu will appear.

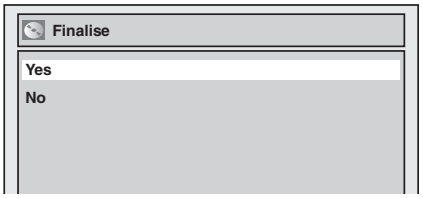
3 Select "Finalise" using [▲ / ▼], then press [ENTER].



Confirmation window will appear.

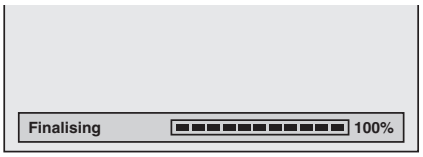
(Continued)

4 Select "Yes" using [▲ / ▼], then press [ENTER].



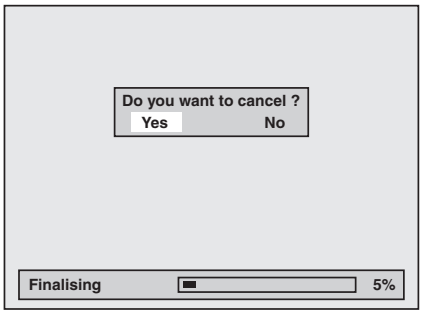
Finalise will start.

5 Finalising is complete.



To cancel finalising (DVD-RW only):

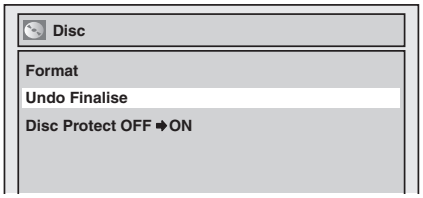
- After step 4, press [STOP ■]. Select "Yes" using [◄ / ►], and then press [ENTER]. Finalising is cancelled and the unit switches to stop mode.
- If ⃠ appears when [STOP ■] is pressed, you cannot cancel finalising because the finalising has already reached at a critical point in its process.
- If "No" is selected and [ENTER] or [RETURN] is pressed, finalising is continued.
- You cannot cancel finalising a DVD-R disc once it has started.



This operation may take awhile to be completed.

Notes

- Finalising a disc in Video mode automatically creates a Title menu.
- You can use the unit to record or edit a disc recorded in VR mode even after it is finalised. After you finalise a disc recorded in Video mode, you cannot edit or record anything else on that disc.
- If you insert a DVD-RW disc finalised with this unit, "Undo Finalise" will appear instead of "Finalise" at step 3.
- To undo the finalisation of the disc, select "Undo Finalise".
- DO NOT power off during finalising. This may result in a malfunction.



Auto finalise

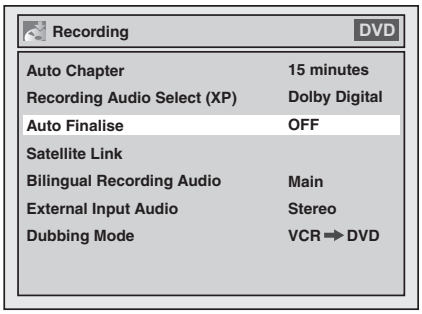
DVD-RW VIDEO | DVD-R

You can finalise discs automatically when the disc space runs out if you set this in the Setup menu.

1 **In stop mode, press [SETUP].**

2 **Select "Recording" using [▲ / ▼], then press [ENTER].**
Recording menu will appear.

3 **Select "Auto Finalise" using [▲ / ▼], then press [ENTER].**



Auto Finalise menu will appear.

4 **Select "ON" using [▲ / ▼], then press [ENTER].**
Your setting will be activated.

5 **Press [SETUP] to exit.**

Note
• Auto finalise function is not available for discs formatted in VR mode.

Symbols in this Section

The following icons show the playable discs for each function described on this section.

DVD-RW VIDEO : Video mode DVD-RW disc

DVD-RW VR : VR mode DVD-RW disc

DVD-VIDEO : DVD-Video disc

DVD-R : DVD-R disc

CD : Audio CD

MP3 : CD-R/RW discs with MP3 files

JPEG : CD-R/RW discs with JPEG files

VCD : Video CD

VCD PBC OFF : Video CD without PBC

DivX® : DVD-R/RW and CD-R/RW discs with DivX® files

Most instructions are based on remote control operation, unless otherwise noted. You can use the buttons on the remote control as well as those on the main unit when they have the same function.

Playback

Play your favourite contents.

- **Basic playback**
- **Further playback**
- **Special playback**
- **Selecting the format of audio and video**

Basic playback

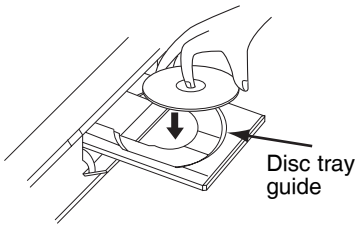
Playing back a DVD-RW / DVD-R

DVD-RW VR | DVD-RW VIDEO | DVD-R

1 **Press [I/⏻ ON/STANDBY] to turn on the unit.**
Turn on the TV and be sure to select the input to which the unit is connected.

2 **Press [DVD].**
Press [OPEN/CLOSE ⏏] to open the disc tray.

3 **Place the disc on the disc tray with its label facing up. Be sure to align the disc with the disc tray guide.**



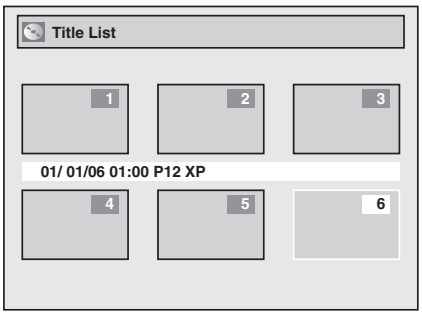
4 **Press [OPEN/CLOSE ⏏] to close the disc tray.**

This operation may take awhile to be completed.

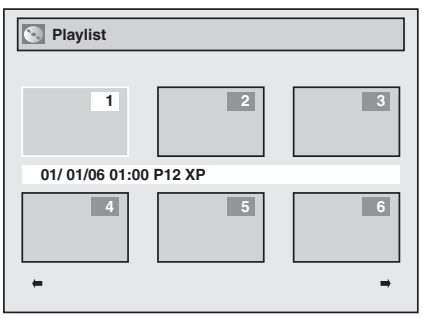
5 Press [TOP MENU] to display the Title menu.

You can switch between the “Original” and “Playlist” in the VR mode using [MENU/LIST].

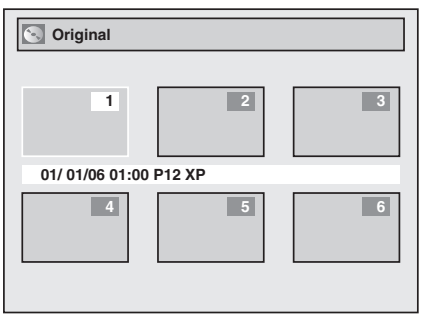
<Video mode>



<VR mode>



[MENU/LIST]

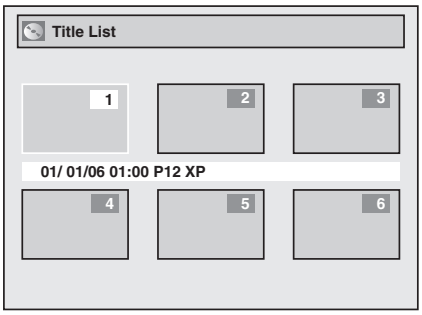


Press [TOP MENU] to resume playback.

To exit the Title menu, press [STOP ■] or [RETURN].

(Continued)

6 Select the desired title using [▲ / ▼/◄ / ►], then press [ENTER].



Pop-up window will appear.

7 Select "Play" using [▲ / ▼], then press [ENTER].

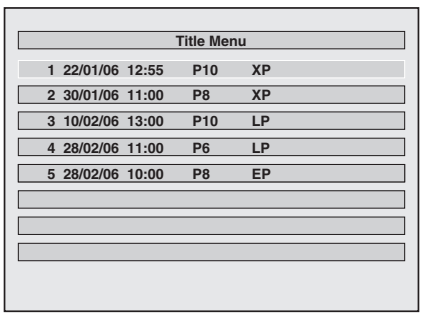
Playback will start.

8 Press [STOP ■] to stop playback.

To eject the disc, press [OPEN/CLOSE ⏏] to open the disc tray, then remove the disc. Press [OPEN/CLOSE ⏏] to close the disc tray before turning off the unit.

Notes

- For DVD-R (Video mode) and DVD-RW (Video mode) discs that are already finalised, a title list will be displayed instead of thumbnails.
- If you insert a DVD-RW recorded in VR mode and it has a Playlist, the Playlist is displayed.
- You can resume playback from where you stopped playing back the disc (Resume playback).
  See page 78 for details.
- You can also start playback by pressing [PLAY ►] instead of [ENTER] at step 6.
- Some discs may start playback automatically.



Playing back a DVD-VIDEO / Video CD / CD

DVD-VIDEO | CD | VCD

1 **Press [I/⏻ ON/STANDBY] to turn on the unit.**
Turn on the TV and be sure to select the input to which the unit is connected.

2 **Press [DVD].**
Press [OPEN/CLOSE ⏏] to open the disc tray.

3 **Place the disc on the disc tray with its label facing up. Be sure to align the disc with the disc tray guide.**
Press [OPEN/CLOSE ⏏] to close the disc tray.

4 **Press [PLAY ►] to start playback.**
Playback will start.
If you are playing back a DVD-Video or a Video CD, a menu may appear.
See pages 76 - 77 for details.

5 **Press [STOP ■] to stop playback.**

Note
• Some discs may start playback automatically.

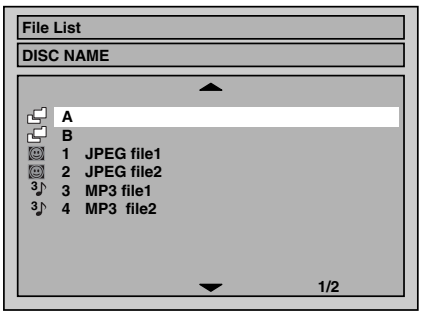
Playing back an MP3 / JPEG disc

MP3 | JPEG

1 **Follow steps 1 to 3 on page 71.**

The File List will appear.

- If the disc is in stop mode, press [TOP MENU] to display the file list.



- To exit the menu, press [TOP MENU] again.

2 **Press [▲ / ▼], to select the desired folder (group) or file (track), then press [ENTER].**

If a file is selected:

Playback will start.

If a folder is selected:

The files in the folder will appear.

Press [▲ / ▼] to select the file you want and then press [ENTER].

- Press [PLAY ►], [ENTER] or [►] to move to the lower folders.
- Press [◄] or [RETURN] to move back to the folder above.

Hints for MP3 and JPEG files:

- Folders are known as Groups, files are known as Tracks.
- Folders are shown with the icon.
- MP3 files are shown with the icon.
  Playback will start from the selected track and continue with the next track.
- JPEG files are shown with the icon.
- The unit can recognise up to 255 groups (or folders) and up to 255 tracks (or files).
- The name of each folder and file can be displayed using up to 29 characters.
  Unrecognisable characters are replaced with asterisks.
- Unplayable groups and tracks may be displayed depending on the recording conditions.
- For MP3 file recorded in Variable Bit Rate (VBR), the unit may not display the actual elapsed time.
- If there are no files in the folder, “No Files” is displayed.
- High resolution or large-size JPEG files take a few moments to be displayed.
- It is impossible to play back progressive JPEGs (JPEG files saved in progressive format) on this unit.
- It is impossible to play back JPEG files of 12 MB or more.

It is recommended that files to be played back in this unit are recorded under the following specifications:

<MP3>

- Sampling frequency: 44.1kHz or 48kHz
- Constant Bit Rate: 112kbps - 320kbps

<JPEG>

Size of picture

- Upper limit: 6,300 x 5,100 dots
- Lower limit: 32 x 32 dots
- Capacity limit: less than 12 MB

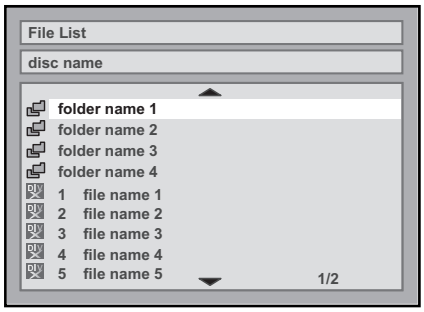
Notes

- The audio source of MP3 files cannot be recorded as digital sound by using MD or DAT deck.
- Files with extensions other than “.mp3(MP3)” or “.jpg / .jpeg(JPEG)” will not be listed in the File List.
- Some folders or files listed in the File List may be unplayable due to their recording status.
- The File List displays only up to 8 folders and file names.

Playing back a DivX® disc

DivX®

1) Follow steps 1 to 5 in on pages 68-69.
The File List will appear.



To exit the menu, press [TOP MENU] again.

2) Press [▲ / ▼] desired folder (group) or file (track), then press [ENTER].

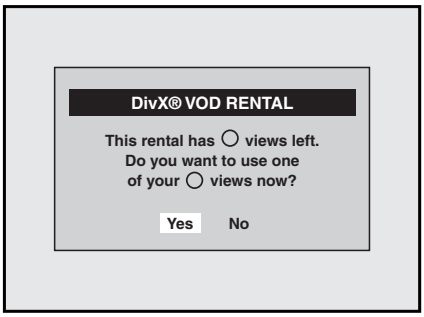
If a file is selected:
Playback will start.

If a folder is selected:
The files in the folder will appear.
Press [▲ / ▼] to select the track or folder you want, then press [ENTER].
- Press [PLAY ►], [ENTER] or [►] to move to the lower folders.
- Press [◄] or [RETURN] to move back to the folder above.

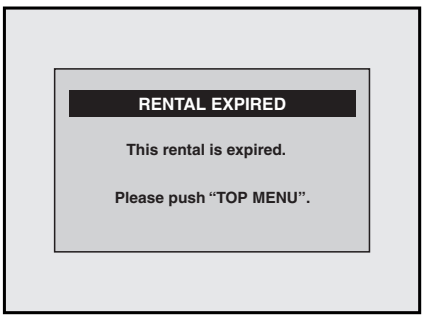
It is recommended that files to be played back in this unit are recorded under the following specifications:

[DivX®]
- Official DivX Certified™ product
- Plays DivX®5, DivX®4, DivX®3 and DivX®VOD video content (in compliance with DivX Certified™ technical requirements)
- Playable Codec of AVI files : DivX®3.1.1, DivX®4.x, DivX®5.1.1
- Maximum size of image : 720 x 480 @30 fps, 720 x 576 @25 fps
- Sampling frequency of audio: 8 kHz - 48 kHz
- Audio type : MPEG1 audio layer 3 (MP3), MPEG1 audio layer 2, Dolby Digital

Hint for the purchased or rental official DivX Certified™ product
- When you purchased or rental a DivX® file through the official site of DivX® Video which is called DivX® Video-On-Demand (VOD) services, a registration code is required every time you get the new file from the DivX® VOD services. Refer to "DivX® VOD" on page 85.
- Some DivX® VOD files are restricted with the limited playable times (you cannot play them back beyond the limit). If your DivX® VOD file has such limit, the playback confirmation screen will appear.
- Use [◄ / ►] to select "Yes" if you want to play back the file, or to select "No" if you do not wish to play it back. Then, press [ENTER] to confirm the selection.



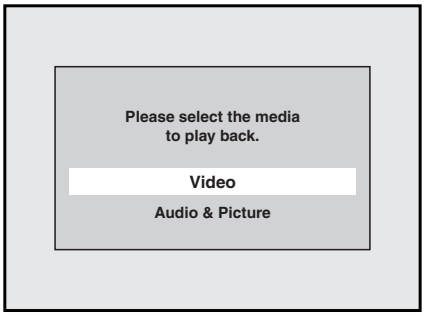
- You cannot play back the DivX® VOD files, of which rental period has been expired. In such case, press [TOP MENU] and select other files that can be played back.



Notes

- DivX® is a codec (compression/decompression) that can compress images to a very small amount of data. The software can compress video data from almost any sources to the size that can be sent on the Internet without compromising visual quality of the images.
- A file with an extension of ".avi" or ".divx" is called an DivX® file. All files with the ".avi" extension are recognised as MPEG4.
- Files whose extension other than ".avi" or ".divx" will not be listed on the DivX® menu. However, unplayable groups or tracks may be displayed, depending on the recording conditions.
- Even if the file has an extension of either ".avi" and ".divx", this unit cannot play back if it is recorded in the format other than DivX®.
- Folders are known as Groups; files are known as tracks.
- DivX® files are shown with the icon.
- A maximum of 255 folders or 999 files may be recognised in one disc.
- Up to 8 hierarchies can be recognised in one folder. Files in the 9th or deeper hierarchies cannot be played back.
- If the track extends beyond the scope of screen, a down arrow "▼" appears, indicating that the user can view another part on the previous page. The current page number and the number of total pages are shown on the right of the down arrow "▼".
- The name of group and track can be displayed up to 29 characters. Unrecognisable characters will be replaced with asterisks.
- You can play back the disc recorded in multi-session.
- It may take a while for audio and images to be output after you inserted a disc and pressed [PLAY ►].
- When playing back the files recorded in high bit rates, the images can be interrupted in some occasions.
- Although DivX® logo has been obtained for this unit, it may not be able to play back some data, depending on the characteristics, bit rates, or audio format settings, etc.
- Use the software recognised by the DivX, Inc. when you make DivX® files.
- A DivX® file whose file size exceeds 2 GB cannot be played back.
- When using tools or utilities to make up DivX® files, read their instruction manual beforehand.
- Never use the MPEG4 tools when you make DivX® files. Otherwise, noise or disturbance of the picture and sound may be generated.
- If a large-sized DivX® file is selected, it may take a while to start the playback (over 20 seconds sometimes).
- If DivX® files written on CD discs cannot be played back, rewrite them on a DVD disc and try to play back.
- For more information for DivX®, please visit http://www.divx.com.

- If you insert a CD-R/RW with DivX® files that are mixed with MP3 and JPEG files, the Playback Media Selection screen will be displayed. Please select "Video" and proceed to next step.



- Press [MENU/LIST] to call up the Playback Media Selection screen in stop mode.
- If you select "Audio & Picture", instead of "Video" on the Playback Media Selection screen, the unit can play back MP3/JPEG files. Refer to pages 72-73 for details.
- You cannot play back the DivX® VOD files obtained with different registration codes on this unit. Press [TOP MENU] and select other files that can be played back.

Playing back discs using the Disc menu

DVD-VIDEO

A DVD contains a disc menu, which lists the contents and enables you to customise playback. The menu may offer choices for subtitle languages, special features, and chapter selection. Usually this information appears automatically when you start playback, but sometimes you need to press [MENU/LIST] to display the menu.

1) Press [DVD] first.
Press [MENU/LIST].
If the feature is not available, ⃠ may appear on the TV screen.

2) Select an item using [▲/▼/◄/►], then press [ENTER].
Repeat this step until all the features you want are set or to start playing back the disc from the menu. The following operations are available.

MENU/LIST button:
Displays the DVD menu, which will vary among discs, and may be the same with the Title menu.

Direction buttons [▲/▼/◄/►]:
Move the cursor from item to item on the screen.

ENTER button:
Selects the currently highlighted menu option.

Number buttons:
Selects a numbered menu option (available on certain discs).

3) Press [MENU/LIST] to exit the disc menu.

Note
- Menus vary among discs. Refer to the information accompanying the disc for details.

Playing back discs using the Title menu

DVD-VIDEO

Some DVDs have a Title menu, which lists the titles available on the DVD. You can start playing back such discs at a specific title.

1) Press [DVD] first.
Press [TOP MENU].
The Title menu will appear.

If the feature is not available, ⃠ may appear on the TV screen.

2) Select a desired item using [▲/▼/◄/►], then press [ENTER].
The disc will start playing back the title you selected. The following operations are available.

TOP MENU button:
Displays the DVD "Title Menu" which will vary between discs.

Direction buttons [▲/▼/◄/►]:
Move the cursor from item to item on the screen.

ENTER button:
Selects the currently highlighted menu option.

Number buttons:
Selects a numbered menu option (available on certain discs).

3) Press [TOP MENU] to exit.

Notes
- [TOP MENU] will not be available for some DVDs.
- Menus vary among discs. Refer to the information accompanying the disc for details.

PBC function for Video CDs

VCD

This unit conforms to ver.1.1 and ver.2.0 of the Video CD standard playback control (PBC) function. This enables you to play back interactive software using menu screens. Refer to the information accompanying the Video CD.

Ver.1.1 (without PBC function): Sound and movie can be played back in the same way as an audio CD.

Ver.2.0 (with PBC function): "Pbc" will appear on the screen and display when playing back a Video CD with the PBC function.

Notes
- When playing back Video CDs with the PBC function, "Pbc" is displayed instead of the playing back time and current track indications on the front panel display.
- Some operations cannot be performed unless the function is cancelled either automatically or intentionally by you.
- Operations that are not available when the PBC function is set to "ON" are indicated by the following symbol in this manual: VCD PBC OFF

Playing back a Video CD using the menu

VCD

1) When playing back a Video CD with the PBC function, the menu will appear automatically.

2) Press [the Number buttons] to select the desired track.
Playback will start at the selected track.

3) Press [RETURN] to go back to the menu.

Note

- While the On-Screen Display appears, you cannot perform steps 2 and 3.

Cancelling and Recalling the PBC function

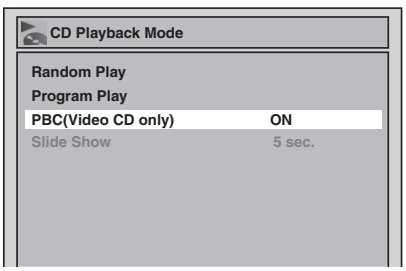
VCD

Insert a Video CD.

1) In stop mode, press [SETUP].

2) Select "CD Playback Mode" using [▲ / ▼], then press [ENTER].

3) Select "PBC (Video CD only)" using [▲ / ▼], then press [ENTER].



4) Select "OFF" using [▲ / ▼], then press [ENTER].

5) Press [SETUP] to exit.
To recall the PBC function, select "ON" in step 4 above.

Note

- The default setting of "PBC (Video CD only)" is "ON".

Pause

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | CD | MP3 | JPEG | VCD | DivX®

1) During playback, press [PAUSE ❚❚].
Playback will pause with the sound muted.

2) Press [PLAY ►] to resume playback.

Step by step playback

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | VCD | DivX®

1) During playback, press [PAUSE ❚❚].

2) Press [SKIP ►►I] repeatedly.
Each time you press [SKIP ►►I], playback will go forward one frame (or step) at a time with the sound muted.
To go backward one frame (or step), press [SKIP I◄◄].
Press and hold [SKIP ►►I] or [SKIP I◄◄] to play slow forward / reverse.

3) Press [PLAY ►] to resume playback.

Notes

- Only step by step forward is available when playing back Video CDs and discs with DivX® files.
- Only slow forward is available when playing back Video CDs.

Further playback

Resume Playback

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R
CD | MP3 | JPEG | VCD PBC OFF | DivX®

You can resume playback from the point where you stopped it before.

1) During playback, press [STOP ■].
The resume message will appear.

2) Press [PLAY ►].
In a few seconds, playback will resume from the point at which you stopped it before. Even if you turn off the unit, you can resume playback at the same point after the unit is powered on.

■ To cancel the resume playback and start playing back the disc from the beginning:
Press [STOP ■] again while playback is stopped.

Notes
- If you turn Video CDs to PBC on using the Setup menu, the resume function is cancelled.
- Playback will resume from the beginning of the current track at which playback was stopped for MP3 and JPEG files.

Rapid Playback

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R

Rapid Play function is available only during playback.
Available only on discs recorded in the Dolby Digital format, Rapid Play plays back in a slightly faster/slower speed while keeping the sound quality just as normal playback.

1) During playback, press [1.3x/0.8x PLAY]
►x0.8: Press [1.3x/0.8x PLAY] once during playback.
Plays back approximately at 0.8 times of normal playback.
►x1.3: Press [1.3x/0.8x PLAY] twice during playback.
Plays back approximately at 1.3 times of normal playback.
► : Press [1.3x/0.8x PLAY] thrice to play back in normal speed.
No effects.

2) Press [PLAY ►] to resume the normal playback.

Notes
- Audio (language) setting cannot be changed while using this mode.
- This feature may not work at some point in a disc.
- Audio is PCM during Rapid play mode.
- When you select “PAL” in “TV System” (see page 124), this function is not available with discs recorded using the NTSC system.

Skipping TV commercials during playback

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R

To enjoy recorded programmes without any interruptions, press [INSTANT SKIP].

1) During playback, press [INSTANT SKIP].
Normal playback will start 30-second advanced point from the point at which you press [INSTANT SKIP].
Each time you press [INSTANT SKIP], the start point will move another 30 seconds forward and playback resume automatically.
You can press [INSTANT SKIP] up to 6 times (180 seconds).

e.g. Press [INSTANT SKIP] once.

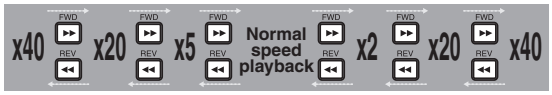
(forwarding 30 seconds)

Playback will restart automatically.

Fast forward / Fast reverse

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | CD | MP3 | VCD | DivX®

1) During playback, press [FWD ▶▶] or [REV ◀◀].
Each time you press [FWD ▶▶] or [REV ◀◀], the approximate speed will change as follows.
Fast forward or fast reverse playback across titles (for DVDs) or tracks (for VCD/MP3) is impossible.



- For Audio CDs, approximate speed is fixed at x8 with sound.
- For Video CDs, approximate forward speeds are x2, x8 and x16, and approximate reverse speeds are x2, x8 and x16.
- For MP3 files, approximate speed is fixed at x8 with sound.
- For DivX® files, approximate forward speeds are x2, x20 and x40, and approximate reverse speeds are x5, x20 and x40.
- To return to playback at normal speed, press [PLAY ▶].
- For some DivX® files, Fast forward/Fast reverse may not function.

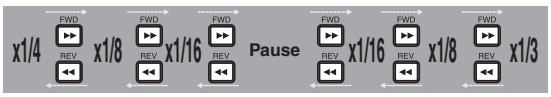
Note

- Forward / reverse speeds are indicated with icons as follows:
  Forward (Approx. Speed)
  x2: ▶▸
  x20: ▶▸▸
  x40: ▶▸▸▸
  Reverse (Approx. Speed)
  x5: ▶◂
  x20: ▶◂◂
  x40: ▶◂◂◂

Slow forward / Slow reverse

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | VCD | DivX®

1) During playback, press [PAUSE ❚❚]. Then press [FWD ▶▶] or [REV ◀◀].
Each time you press [FWD ▶▶] or [REV ◀◀], the approximate speed is changed as follows.
(The sound will remain muted.)



To return to normal playback, press [PLAY ▶].

Notes

- Forward / reverse speeds are indicated with icons as follows:
  Forward (Approx. Speed)
  x1/16: ▮▶▸
  x1/8: ▮▶▸▸
  x1/3: ▮▶▸▸▸
  Reverse (Approx. Speed)
  x1/16: ▮▶◂
  x1/8: ▮▶◂◂
  x1/4: ▮▶◂◂◂
- Only slow forward is available when playing back Video CDs and discs with DivX® files.
- Set “Still Mode” to “Field” in the Setup menu if picture in the slow playback mode is blurred (refer to page 124).

Special playback

Zoom

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | JPEG | VCD | DivX®

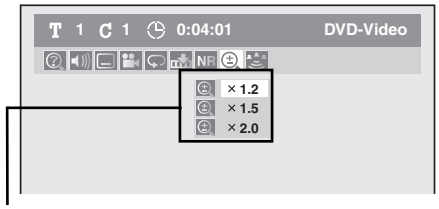
1) During playback, press [ZOOM].

- You can also select the zoom function by pressing [DISPLAY]. In this case, press [DISPLAY] first, select the icon using [◄ / ►], and then press [ENTER].

Zoom menu will appear.

2) Select the desired zoom factor to zoom using [▲ / ▼], then press [ENTER].

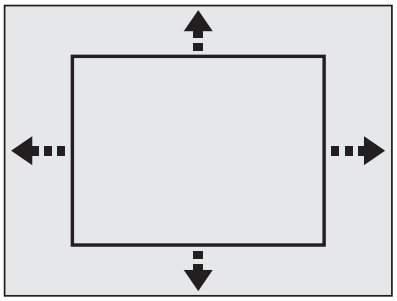
<e.g. DVD-Video>



Four options are available, “x1.0”, “x1.2”, “x1.5” and “x2.0”. These are displayed excluding the current zoom rate.

The zoom area is displayed.

3) Select the desired zoom position using [▲ / ▼ / ◄ / ►], then press [ENTER].



Zoom playback will start.

Notes

- To exit the zoom menu, press [ZOOM] at step 1.
- To cancel the zoom function, select “x1.0” using [▲ / ▼], then press [ENTER].
- If selecting a smaller factor than that currently selected, the zoom area is not displayed.
- You cannot slide the zoomed picture on some JPEG files.

Marker Setup

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | CD | VCD PBC OFF

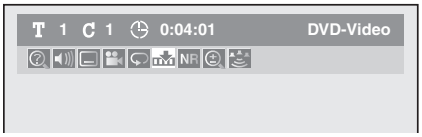
You can assign a specific point on a disc to return later.

1) During playback, press [DISPLAY].

The Display menu will appear.

2) Select the icon using [◄ / ►], then press [ENTER].

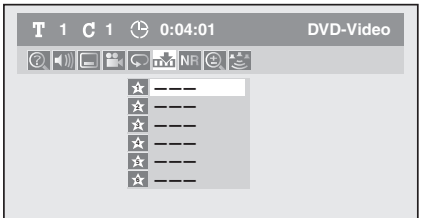
Marker setup menu will appear.



3) Select the desired marker number using [▲ / ▼]. When the disc reaches the desired point, press [ENTER].

The title (track) number and the time are displayed.

<e.g. DVD-Video>



4) To return to the marker, select the desired marker number using [▲ / ▼], then press [ENTER].

Notes

- To clear a marker, select the marker number you wish to clear, then press [CLEAR].
- You can mark up to 6 points.
- All markers are erased when you perform the following operations.

– Open the disc tray.
– Turn off the power.
– Record on a recordable disc.
– Change the mode between Original and Playlist (VR mode).

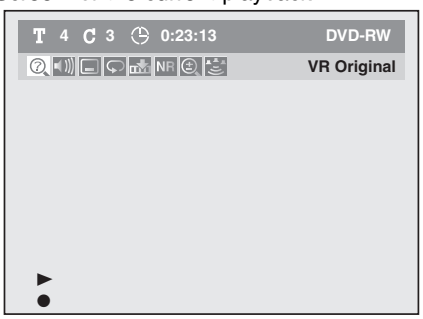
Chasing Playback during Recording

DVD-RW VR

You can play back the already recorded part of the currently recording programme without waiting for the recording to the end. **This function works from 1 minute after the start of the recording.**

1) During recording, press [PLAY ►].
Playback will start from the beginning of the programme that you are currently recording.

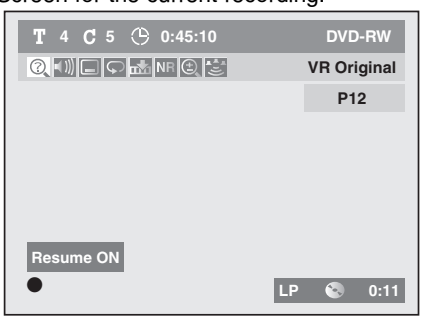
Screen for the current playback:



If you play the fast forward playback and the playback reaches the scene recorded 1 minute ago, the forwarding playback will automatically return to the normal playback.

2) Press [STOP ■] once to stop playback.
The resume message will appear.

Screen for the current recording:



To stop recording, press [STOP ■] again.
To cancel the resume, press [STOP ■] again.

Notes

- Playback image may freeze momentarily using this function.
  However this does not affect the recording.
- The x2 fast forward playback is not available.
- You cannot use the OTR (One-touch Timer Recording) function using this function.
- "Wait for a moment." will be displayed on the screen if you press [PLAY ►] before 1 minute of recording.

- **This function is available only when you are recording on a DVD-RW disc in VR mode, with the recording mode LP, EP, SLP or SEP, not XP or SP.**

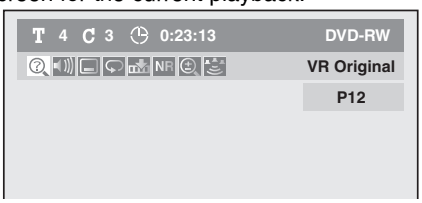
Simultaneous Playback and Recording

DVD-RW VR

You can also play back a recorded title during current recording or the Timer Recording on the same disc.

1) During recording, press [DISPLAY].
The display menu will appear.

Screen for the current playback:



2) Select icon using [◄/►], then press [ENTER].
The title number next to T will be highlighted.

Title:
Enter a desired title number to search using [▲/▼] or [the Number buttons], then press [ENTER].
Selected title playback will start.

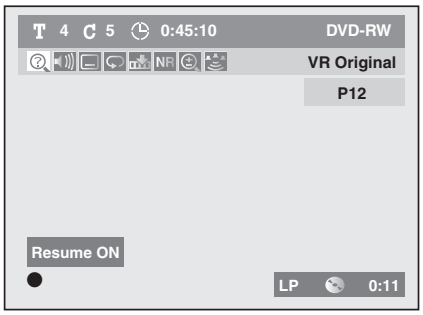
Chapter:
To move to C for chapter, press [►].
Enter a desired chapter number to search using [▲/▼] or [the Number buttons], then press [ENTER].

Selected chapter playback will start.

If you play the currently recording programme and the playback reaches the scene recorded 1 minute ago, the forwarding playback will automatically return to the normal playback.

3) Press [STOP ■] once to stop playback.
The resume message will appear.

Screen for the current recording:



To stop recording, press [STOP ■] again.
To cancel the resume, press [STOP ■] again.

Notes
- Playback image may freeze momentarily using this function.
  However this does not affect the recording.
- The x2 fast forward playback is not available.
- **This function is available only when you are recording on a DVD-RW disc in VR mode, with the recording mode LP, EP, SLP or SEP, not XP or SP.**
- Only the titles (chapters) in the Original can be selected. You cannot select titles from the Title List.
- When you stop the playback after the Timer recording is completed, the unit will be switched to the timer standby mode if another programme has been set (refer to "Hints for Timer Recording" on page 55).

Searching by Title, Chapter or Track

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R
CD | VCD PBC OFF | MP3 | JPEG | DivX®

Using [SKIP ⏮◀◀ / ▶▶⏭]

1) During playback, press [SKIP ▶▶⏭] to skip the current title, chapter or track and move to the next.
The title, chapter or track will move forward by one at a time.

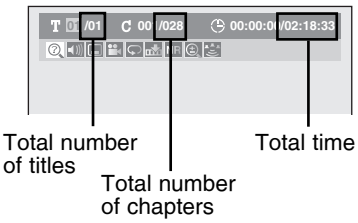
To go back to the beginning of the current title, chapter or track, press [SKIP ⏮◀◀].
Press it twice in quick successions to go to the previous title, chapter or track. It will move backward by one at a time.

Note
- If there is no chapter in one title, the current title will be skipped.

Using [DISPLAY]

1) During playback, press [DISPLAY].
The Display menu will appear.

<e.g. DVD-Video>



2) Select the [?] icon using [◀ / ▶], then press [ENTER].
The title/track number next to [T] will be highlighted.

Searching for a Title/Track:
3) Enter the desired title/track number to search for using [▲ / ▼] or [the Number buttons], then press [ENTER].
Title/Track search will start.

Notes
- Total number of chapters and playback time of the selected title are also displayed.
- For Video CDs, you can perform the track search function in stop mode without turning PBC off manually.
- During Random playback or Programme playback, you cannot search the desired track.

Searching for a Chapter:
3) Press [◀ / ▶] to highlight the number displayed in the right side of the [C] icon.

4) Enter the desired chapter number to search for using [▲ / ▼] or [the Number buttons], then press [ENTER].
Chapter search will start.

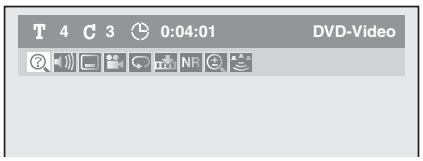
Note
- The title number and playback time of the selected chapter are also displayed.

Searching by Time

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | CD | VCD PBC OFF | DivX®

1) During playback, press [DISPLAY].
The Display menu will appear.

<e.g. DVD-Video>



2) Select the icon using [◄ / ►], then press [ENTER].
T for the title or track number is highlighted.

3) Press [◄ / ►] to highlight the time next to .

4) Enter the desired time to search for using [▲ / ▼] or [the Number buttons], then press [ENTER].
Time search will start.

Notes

- During Random playback or Programme playback, you cannot search the desired time.
- The title number and chapter number of the setting time are also displayed.
- Time search function is available only in the same track or title.
- If the time search is not available, there is no display.
- For some DivX® files, time search may not function.

Repeat Playback

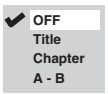
DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | CD | MP3 | JPEG | VCD PBC OFF | DivX®

1) During playback, press [REPEAT].

- You can also select the repeat function by pressing [DISPLAY]. In this case, press [DISPLAY] first, select the icon using [◄ / ►], and then press [ENTER].

Repeat menu will appear.

<DVD-Video>



<Audio CD, Video CD>

<MP3, JPEG>

<DivX® files>

- Repeat menu varies depending on the disc being played.

2) Select the desired repeat type using [▲ / ▼], then press [ENTER].
The selected repeat playback will start.

The following repeat types are available.

Title:
The current title will be played back repeatedly. (DVD only)

Chapter:
The current chapter will be played back repeatedly. (DVD only)

All:
The current disc will be played repeatedly. (DVD-RW (VR mode), Audio CD, Video CD, MP3, JPEG and DivX® only)

A-B:
The A-B point will be played back repeatedly. (DVD, Video CD, Audio CD and DivX® only)
Press [ENTER] to select A-B.
Press [ENTER] again to decide the starting point (A).
Press [ENTER] after setting point (A) to select the ending point (B).

Track:
The current track will be played repeatedly. (Audio CD, Video CD, MP3, JPEG and DivX® only)

Group:
The current group will be played back repeatedly. (MP3, JPEG and DivX® only)

OFF:
Resumes normal playback.

Notes

- To cancel the repeat playback, select "OFF" at step 2. The repeat setting is also cancelled when you stop playback.
- You can only set A-B repeat playback within the current title (for DVDs) or current track (for Audio CDs, Video CDs and discs with DivX® files).
- You cannot select "Group" during the random playback.
- For some DivX® files, A-B Repeat playback may not function.
- For Video CDs with PBC function, repeat playback does not work while the PBC function is on.

Random Playback

CD | MP3 | JPEG | VCD PBC OFF

You can use this function to play back a disc randomly instead of the recorded order.

1) Press [DVD] first.
In stop mode, press [SETUP].

2) Select "CD Playback Mode" using [▲ / ▼], then press [ENTER].
CD Playback Mode menu will appear.

3) Select "Random Play" using [▲ / ▼], then press [ENTER].
Random playback will start.

Notes

- To cancel random playback, press [STOP ■] twice during random playback. "Playmode OFF" appears on the screen.
- For Video CDs with PBC function, the PBC setting will be switched to off automatically when you start random playback.
- During random playback, if you forward the track to the end, the playback speed of the next track will be normal.
- During random playback, you cannot use the search function except for the search with [SKIP I◀◀ / ▶▶I]. By pressing [SKIP I◀◀], you can return only to the beginning of the current track.

Program Playback

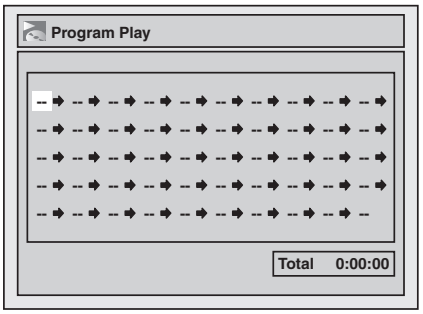
CD | VCD PBC OFF

You can programme the disc to play back in your desired order.

1) Follow steps 1 and 2 in "Random Playback".
CD Playback Mode menu will appear.

2) Select "Program Play" using [▲ / ▼], then press [ENTER].
Program Play list will appear.

3) Select the desired track using [▲ / ▼], then press [ENTER] or [▶].



A cursor will move to next.

4) Press [PLAY ▶] to start programme playback.
Programme playback will start.

Notes

- To erase tracks you selected, press [CLEAR].
- You can make up to 50 track settings.
- To cancel programme playback, press [STOP ■] twice during programme playback. "Playmode OFF" appears on the screen.
- You may also select the desired track using [the Number buttons] at step 3.
- For Video CDs with PBC function, the PBC setting will be switched to off automatically when you start programme playback.
- During programme playback, if you forward the track to the end, the playback speed of the next track will be normal.
- During programme playback, you cannot use the search function except for the search with [SKIP I◀◀ / ▶▶I].

Slide Show

JPEG

You can select the display time between 5 seconds and 10 seconds.

1) Follow steps 1 and 2 in "Random Playback" on page 84.

2) Select "Slide Show" using [▲ / ▼], then press [ENTER].

3) Select the display time using [▲ / ▼], then press [ENTER].

4) Press [SETUP] to exit.

Note

- Large-size JPEG files take a few moments to be displayed.

DivX® VOD

DivX®

This unit allows you to play back the files purchased or rented from DivX® Video-On-Demand (VOD) services. The files are available on the internet. When you purchase or rent DivX® VOD files on the internet, you will be asked to enter a registration code. This menu item provides you with the registration code.

1) In Stop mode, press [SETUP].

2) Select "Playback" using [▲ / ▼], then press [ENTER].
Playback menu will appear.

3) Select "DivX® VOD" using [▲ / ▼], then press [ENTER].
Your registration code will appear.

Notes

- One registration code is only valid for one DivX® VOD file.
- You must first download the file from the internet and play it back on this unit before you are able to get another code.
- You must follow this step every time you purchase or rent a DivX® VOD file from the internet.
- For more information for DivX®, please visit http://www.divx.com/vod.

Selecting the format of audio and video

You can select the format of audio and video to suit the content of the disc you are playing back.

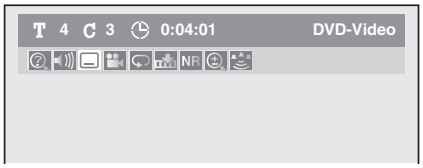
Switching subtitles

DVD-VIDEO | DivX®

Many DVD-Videos have subtitles in one or more languages. The available languages are usually printed on the disc case. You can switch subtitle languages at any time during playback.

1) During playback, press [DISPLAY].
The Display menu will appear.

2) Select the icon using [◄ / ►], then press [ENTER].



Subtitle menu will appear.

3) Select the desired subtitle language using [▲ / ▼], then press [ENTER].
Subtitles are displayed in the selected language.

If you select “OFF”, subtitles will disappear.

Notes

- With some discs it is only possible to change the subtitle language from the disc menu. Press [TOP MENU] or [MENU / LIST] to display the disc menu.
- If a 4-digit language code appears in the subtitle menu at step 3, refer to the “Language code” on page 137.
- For discs with DivX® files, the screen only displays the number of subtitle languages.

Switching audio soundtrack

DVD-VIDEO | DVD-RW VR | CD | VCD | DivX®

When playing back a DVD-Videos recorded with two or more soundtracks (often in different languages), you can switch among them during playback.

When playing back DVD-RW discs recorded in VR mode, you can switch to main audio (L), sub audio (R) or a combination of both (L / R).

When playing back Audio CDs or Video CDs, you can switch to the left (L), the right (R) channel or stereo (L / R).

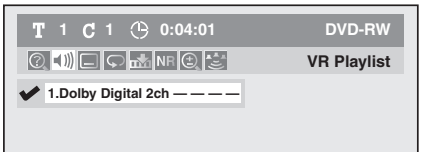
1) During playback, press [AUDIO].

- You can also select the audio function by pressing [DISPLAY]. In this case, press [DISPLAY] first, select the icon using [◄ / ►], and then press [ENTER].

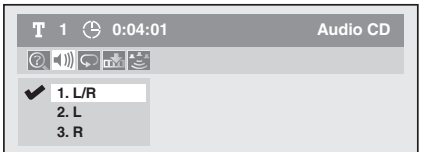
Audio menu will appear.

<DVD-Video>

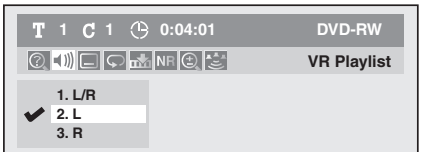
<DVD-RW VR mode>



<Video CD, Audio CD>



<DVD-RW VR mode with main and sub channel>



2) Select a desired audio soundtrack or audio channel using [▲ / ▼], then press [ENTER].

With a DVD Video:
Audio soundtrack will switch.
Example:
English → Spanish → French

With a DVD-RW in VR mode with main and sub channel:
Audio channel will switch.
Example:
L/R → L → R

With an Audio CD, Video CD:
Audio channel will switch.
Example:
L/R → L → R

Note

- With some discs it is only possible to change the soundtrack from the disc menu. Press [TOP MENU] or [MENU / LIST] to display the disc menu.

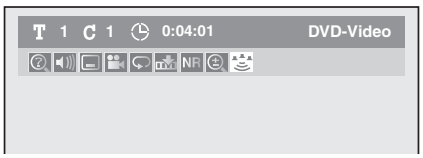
Switching virtual surround system

DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | CD | VCD | MP3

You can enjoy stereophonic virtual space through your exciting 2 channel stereo system.

1) During playback, press [DISPLAY].
Display menu will appear.

2) Select using [◄ / ►], then press [ENTER].

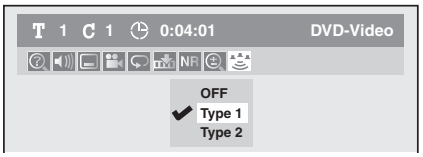


Virtual Surround menu will appear.

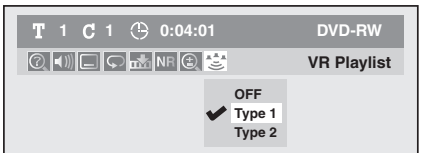
3) Select "OFF", "Type 1" or "Type 2" using [▲ / ▼], then press [ENTER].

- OFF: no effect
- Type 1: Natural effect
- Type 2: Emphasised effect

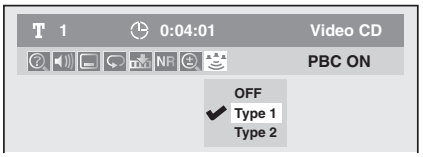
<DVD-Video>



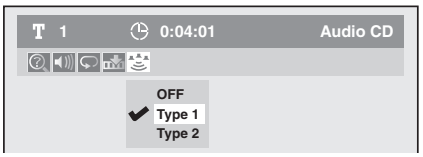
<DVD-RW VR mode>



<Video CD>



<Audio CD>



<MP3>

Notes

- Select "Virtual Surround" to "OFF" if the sound is distorted.
- The setting will be kept even when the unit is turned off.

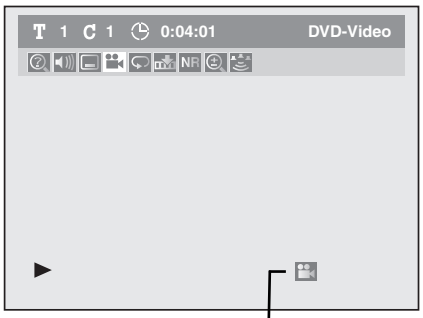
Switching camera angles

DVD-VIDEO

Some DVD-Video discs contain scenes which have been shot simultaneously from a number of different angles. For these discs, the same scenes can be viewed from different angles.

1) During playback, press [DISPLAY].
The angle icon appears when a switching camera angle is available. (Available only when the angle icon appears in bottom right of the TV screen.)

2) Select the icon using [◄ / ►], then press [ENTER].
The angle will switch each time you press [ENTER].



Angle icon appears when a switching camera angle is available.

Notes

- If the Angle Icon setting is "OFF" in the Setup menu, the icon will not appear.
- Even when the icon is not displayed, you can select the angle if the currently played back title has at least two multi-angle scenes.

Reducing block noise

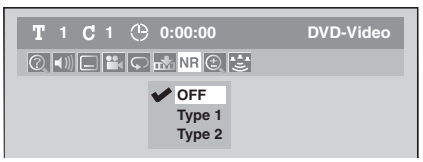
DVD-VIDEO | DVD-RW VIDEO | DVD-RW VR | DVD-R | VCD | DivX®

1) During playback, press [DISPLAY].
The Display menu will appear.

2) Select the NR icon using [◄ / ►], then press [ENTER].

Noise Reduction menu will appear.

3) Select the desired option using [▲ / ▼], then press [ENTER].



Your setting will be activated.

This function reduces noise in the playback picture. When playing back discs recorded in long time modes such as SLP or SEP, select "Type 1" or "Type 2". "Type 2" is more effective.
When playing back discs with a little noise, such as DVD-Videos, select "OFF".

Symbols in this Section

The following icons show the playable discs for each function described on this section.

DVD-RW VR ORG : DVD-RW disc recorded in VR mode Original

DVD-RW VR PL : DVD-RW disc recorded in VR mode Playlist

DVD-RW VIDEO : DVD-RW disc recorded in Video mode

DVD-R : DVD-R disc

Most instructions are based on the remote control operation, unless otherwise noted. You can use the buttons on the remote control as well as those on the main unit when they have the same function.

Editing

You can create your own movie from your assembled scenes. Save your favourite videos in DVD discs.

- **Information on disc editing**
- **Editing discs**

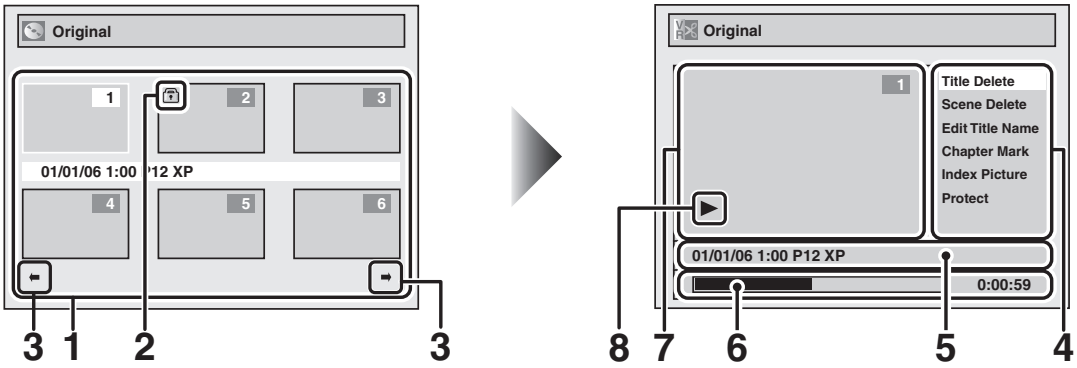
Information on disc editing

You can edit a disc recorded using the PAL system. It is not possible to edit discs recorded using the NTSC system.

Guide to a title list

The title list enables you to check the titles recorded on a disc easily. You can choose a title to play back from the screen and easily edit the titles as you wish.
The items on the title list are as follows.

Press [TOP MENU].



1. To select a title recorded on the disc for editing, move the cursor using [▲ / ▼ / ◄ / ►] to the title and press [ENTER]. Then select “Edit” using [▲ / ▼] in a pop-up menu and then press [ENTER] to display the Edit menu.
2. If the title is protected, the Protect icon will appear.
   • It is impossible to protect a title on the Playlist.
3. Arrow icons mean the title list includes a next or previous page. Press [◄ / ►] in the direction of the icon you wish to follow.
4. Available title editing menus vary depending on the disc and format types.
5. You can edit the title and details as you wish.
6. Time status bar of the recording.
   • After editing, playback starts from this point.
7. The selected title from the title list thumbnails.
   • The selected title is played back automatically.
8. Playback status of the selected title.

Edit the recorded disc

You will find editing discs is easy. This unit offers convenient edit functions which are possible only with DVD-R/RW discs.

You can edit the following from a title list.
- **Putting names on titles**
- **Setting pictures for thumbnails**
- **Setting / clearing chapter marks**
- **Deleting titles or scenes**

(Possible editing functions depend on the recording format and editing method.)

Original and Playlist (VR mode)
You can edit the recordings in Playlist without changing the original recordings. Playlist does not take up much disc space.

What “Original” or “Playlist” is for?
Throughout this manual, you will find Original and Playlist which refer to the actual content and the edited version.
- **Original** content refers to what’s actually recorded on the disc.
- **Playlist** content refers to the edited version of the disc; how the Original content is to be played.

Finalising a Disc
- This will allow a disc that is recorded on this unit to be played back on a different DVD player — without finalisation it will not be playable on another player.
- After finalising a disc in Video mode, you cannot edit any information that is on that disc.
- If you have recorded in VR mode on DVD-RW disc, then editing is still permitted after finalising.

Editing discs

Type of title	Item	Page
DVD-RW VR Mode Original — Video Mode	Deleting titles	92
	Editing title names	94
DVD-RW VR Mode Original	Adding or deleting chapter marks	97
	Setting pictures as thumbnails	99
	Deleting parts of titles	101
DVD-RW VR Mode Playlist	Dividing a title	103
	Combining titles	104
	Adding titles to a Playlist	106
	Erasing all Playlist	108
DVD-RW VR mode Original only	Setting or releasing the title protection	110
DVD-RW Video mode only	Setting or clearing all the chapter marks in one title	112

Note

- Original titles once edited will not remain as recorded originally. When you want to leave the original as it is, edit the Playlist as you prefer.

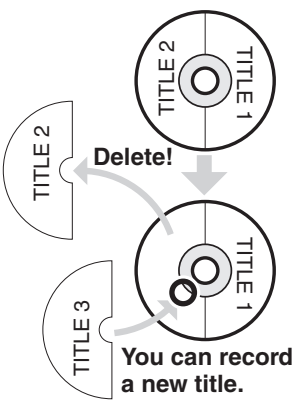
Notes for deleting titles

After the disc is fully recorded:

DVD-RW

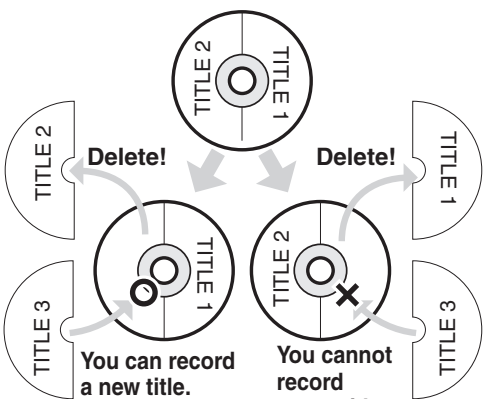
• When a title is deleted from DVD-RW disc in VR mode, the recordable disc space will be increased.

The Full-Recorded disc



• When the last title is deleted from DVD-RW disc in Video mode, the recordable space will be increased.

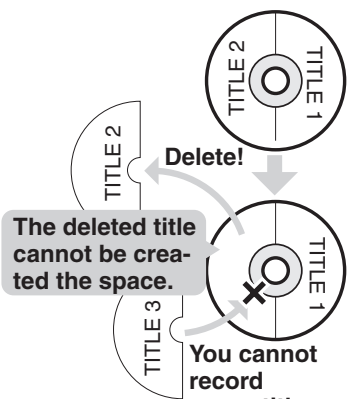
The Full-Recorded disc



DVD-R

• When a title is deleted from DVD-R disc, the recordable space will NOT be increased.

The Full-Recorded disc



Once all editings are made, press [RETURN] in several times to exit the editing mode. “Writing to Disc” appears momentarily. It also appears when opening the disc tray or pressing [I/⏻ ON/STANDBY] before exiting the editing mode.

Editing discs

Deleting titles

DVD-RW VR ORG | DVD-RW VR PL | DVD-RW VIDEO | DVD-R

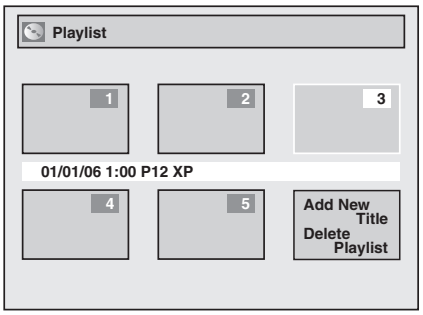
You can delete titles which you do not need anymore. Be advised that the titles once deleted cannot be brought back to the disc. Be sure to read "Notes for deleting titles" on page 91 before you delete the title.

1 **Press [DVD] first.**
In stop mode, press [TOP MENU].

Title list, Original or Playlist will appear.

- Press [MENU/LIST] to switch between "Original" and "Playlist" if the disc is recorded in VR mode.

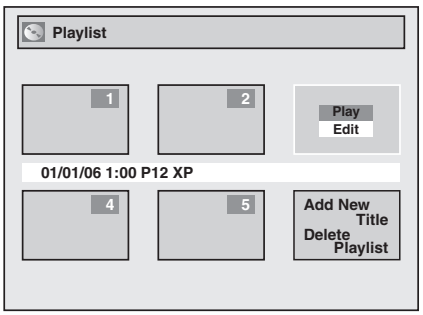
2 **Select the desired title with [▲ / ▼ / ◄ / ►].**
Press [ENTER].



Option menu will appear.

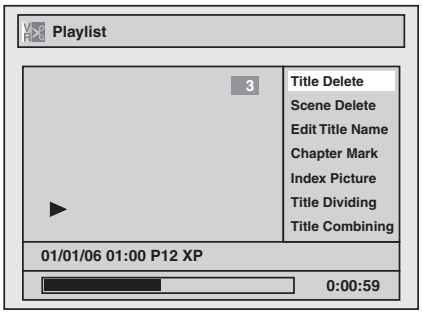
3 **Select "Edit" with [▲ / ▼], then press [ENTER].**

<e.g. DVD-RW VR mode Playlist>



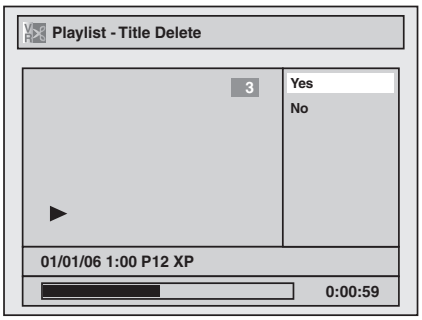
Edit menu will appear.

4 Select “Title Delete” using [▲ / ▼], then press [ENTER].



Confirmation window will appear.

5 Select “Yes” using [▲ / ▼], then press [ENTER].



“Wait for a moment.” will appear and the operation may take awhile to be completed.

“Are you sure?” will appear. Select “Yes” using [▲ / ▼] and then press [ENTER].
Title is deleted.

6 Press [RETURN] or [STOP ■] to exit.

Writing to the disc starts.
It may take awhile to write the data onto a disc.

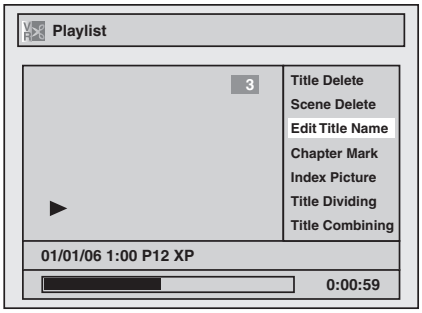
Editing title names

DVD-RW VR ORG | DVD-RW VR PL | DVD-RW VIDEO | DVD-R

You can change the title names from this menu.
The names you input for the titles will be displayed on Title List / Original / Playlist.

1 **Follow steps 1 to 3 on page 92.**
Select "Edit Title Name" using [▲ / ▼], then press [ENTER].

<e.g. DVD-RW VR mode Playlist>

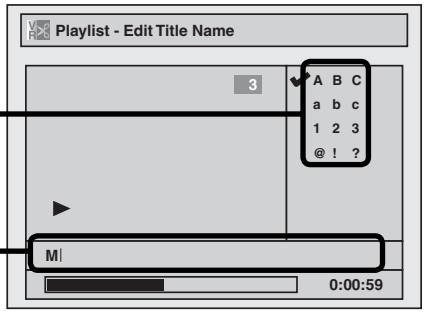


A window for entering the title name will appear.

2 To enter the title name, refer to "Guide to edit title name" on page 96.

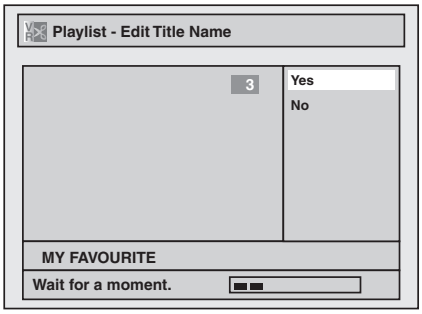
character set

area for entering title names



When you finish entering the title name, press [ENTER].
Confirmation window will appear.

3 Select "Yes" using [▲ / ▼], then press [ENTER].



The title menu will be changed.

4 Press [RETURN] and then [RETURN] or [STOP ■] to exit.

Writing to the disc starts.
It may take awhile to write the data onto a disc.

This operation may take a while to be completed.

Guide to edit title name

DVD-RW VR ORG | DVD-RW VR PL | DVD-RW VIDEO | DVD-R

[Step1]: Select the desired character set using [▲ / ▼], then press [ENTER].

✔ A B C
a b c
1 2 3
@ ! ?

[Step2]: Using the list below as a guide, press [the Number buttons] repeatedly until the desired letter appears. **e.g. character set : A B C**

press 2
A B C A…

Select ✔ / Press	ABC	abc	123	@ ! ?
0	<space>	<space>	0	<space>
1	(*1)	(*1)	1	! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [ ] ^ _ { | }
2	ABC	abc	2	(*2)
3	DEF	def	3	(*2)
4	GHI	ghi	4	(*2)
5	JKL	jkl	5	(*2)
6	MNO	mno	6	(*2)
7	PQRS	pqrs	7	(*2)
8	TUV	tuv	8	(*2)
9	WXYZ	wxyz	9	(*2)

*1 Press 1, character set will be changed to the " @!? " mode automatically.

*2 Press 2 to 9, character set will be changed to the abc mode automatically.

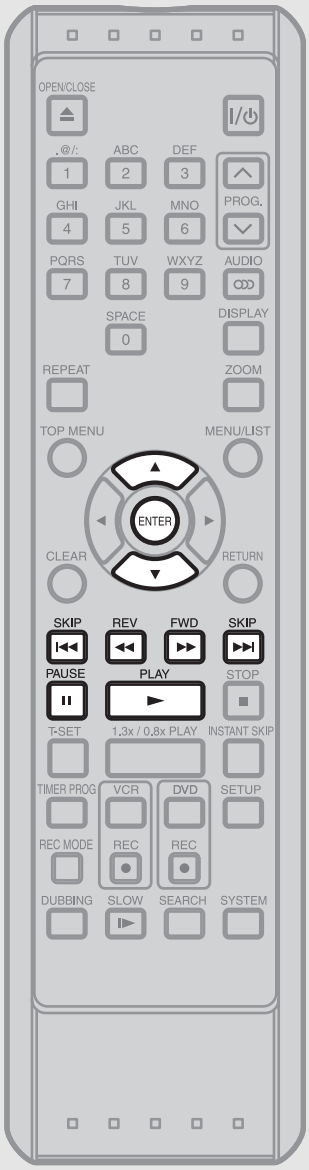
- To delete letters, press [CLEAR] repeatedly. Press and hold [CLEAR] to delete all letters.
- Press [◄ / ►] to move the cursor to the left or right.
- You can enter up to 30 letters.

Note:

- Unrecognisable characters will be replaced with asterisks "*". If you delete them, adjoining characters may change to asterisks "*" or other.

Adding or deleting chapter marks

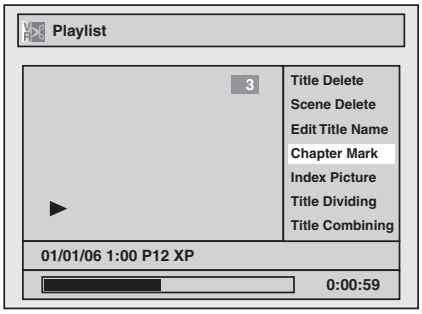
DVD-RW VR ORG | DVD-RW VR PL



You can add or delete chapter marks on each title.
Once a chapter is marked, you can use it for the chapter search feature.
You can add a chapter marks anywhere you want.

1 Follow steps 1 to 3 on page 92. Select "Chapter Mark" using [▲ / ▼], then press [ENTER].

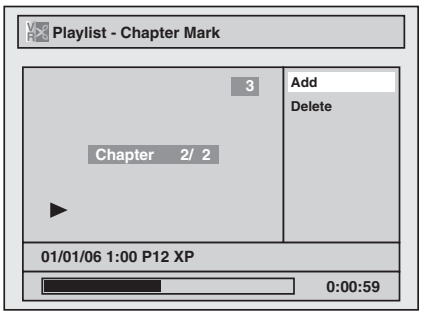
<e.g. DVD-RW VR mode Playlist>



Option window will appear.

2 Use [SKIP I◀◀ / ▶▶I], [REV ◀◀], [FWD ▶▶], [PLAY ▶] and [PAUSE ❚❚] to find the point where you will create a new chapter marker. Or use [SKIP I◀◀ / ▶▶I] to find a chapter marker that you wish to delete. Select "Add" or "Delete" using [▲ / ▼], then press [ENTER].

<e.g. :Add>



Confirmation window will appear.

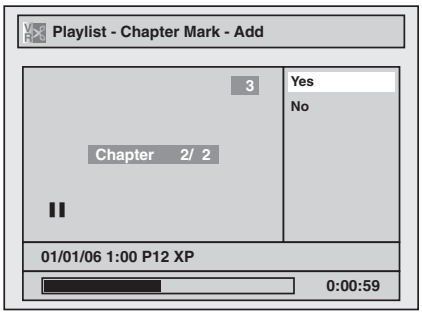
- You cannot delete the first chapter of a title.

(Continued)

Note

- When the number of chapter marks in the Playlist comes to 999 in total, you cannot add any more chapter mark.

3 Select "Yes" using [▲ / ▼], then press [ENTER].



"Wait for a moment." will appear and the operation may take awhile to be completed.

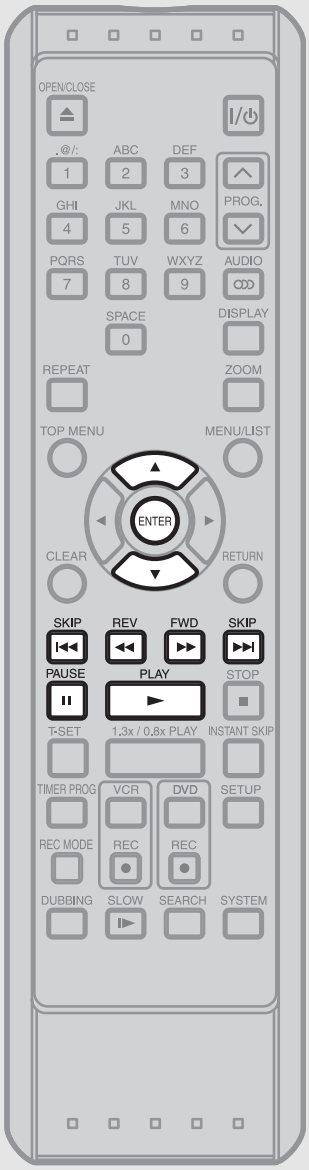
A chapter mark is added.

4 Press [RETURN] twice and then [RETURN] or [STOP ■] to exit.

Writing to the disc starts.
It may take awhile to write the data on to a disc.

Setting pictures as thumbnails

DVD-RW VR ORG | DVD-RW VR PL



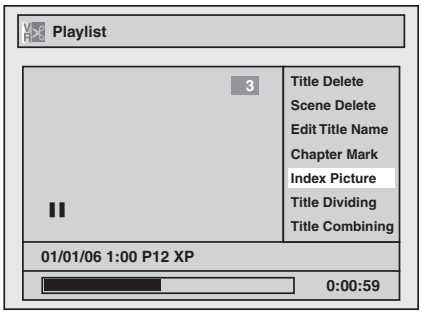
You can set a picture to each title as a thumbnail. It helps you to remember the contents of the title you are playing. The beginning picture has been selected as the default.

1 **Follow steps 1 to 3 on page 92 to display the Edit menu.**

Edit menu will appear.

2 **Use [SKIP ⏮ / ⏭], [REV ◀◀], [FWD ▶▶], [PLAY ▶] and [PAUSE ❚❚] to find the picture you wish to select as a thumbnail. Select "Index Picture" using [▲ / ▼], then press [ENTER].**

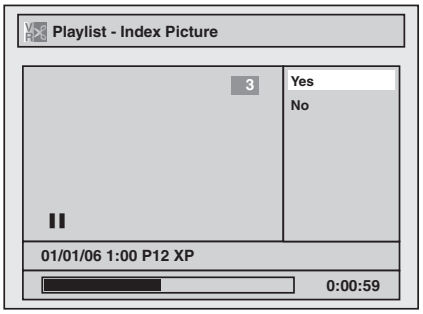
<e.g. DVD-RW VR mode Playlist>



Confirmation window will appear.

(Continued)

3 Select "Yes" using [▲ / ▼], then press [ENTER] .



"Wait for a moment." will appear and the operation may take awhile to be completed.

The picture is set as the thumbnail.

4 Press [RETURN] and then [RETURN] or [STOP ■] to exit.

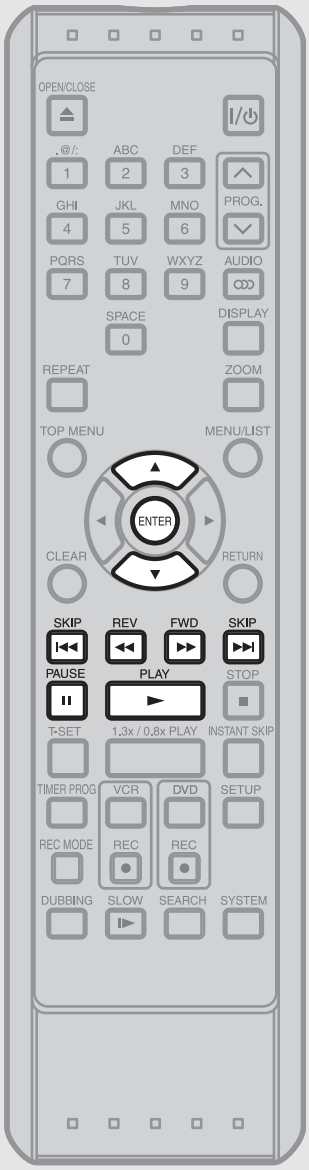
Writing to the disc starts.
It may take awhile to write the data onto a disc.

Note

• If a picture selected as a thumbnail is deleted by deleting a part of a title, the default picture is selected.

Deleting parts of titles

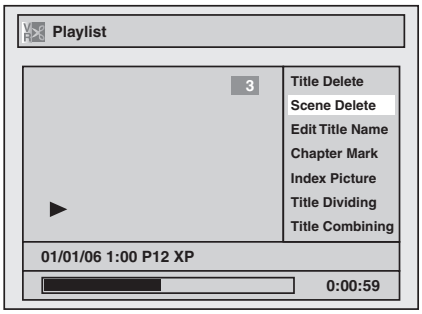
DVD-RW VR ORG | DVD-RW VR PL



You can delete a specific part of a title.
Even when parts of title are deleted from the Playlist, the original title will remain as it is.

1 **Follow steps 1 to 3 on page 92 to display the Edit menu.**
Select "Scene Delete" using [▲ / ▼], then press [ENTER].

<e.g. DVD-RW VR mode Playlist>



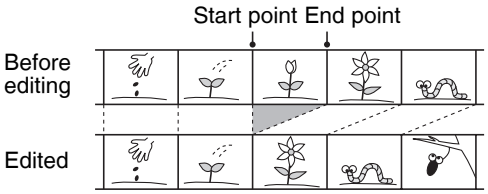
Option window will appear.

2 **Use [SKIP ⏮ / ⏭], [REV ◀◀], [FWD ▶▶], [PLAY ▶] and [PAUSE ❚❚] to find the start point, then press [ENTER].**
Then use [SKIP ⏮ / ⏭], [REV ◀◀], [FWD ▶▶], [PLAY ▶] and [PAUSE ❚❚] again to move to the end point, and press [ENTER].

The cursor will move to "Preview". You can check the preview by pressing [ENTER].
The bar at the bottom of the screen indicates the total and the elapsed time of the title, and the area selected for deletion is indicated in red during the preview.

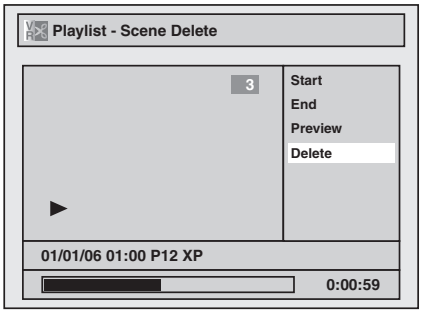
Press [ENTER] again to start the preview.

You can check the result of deletion by "Preview".



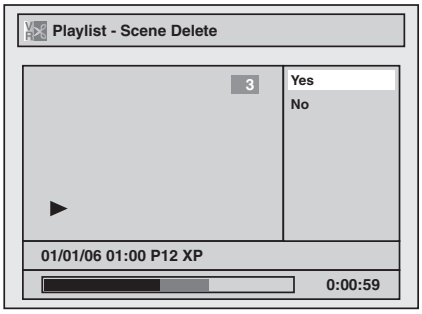
(Continued)

3 Select "Delete" using [▲ / ▼], then press [ENTER].



Confirmation window will appear.

4 Select "Yes" using [▲ / ▼], then press [ENTER].



"Are you sure?" will appear. Select "Yes" with [▲ / ▼] and then press [ENTER].

Part of the title is deleted.

"Wait for a moment." will appear and the operation may take awhile to be completed.

5 Press [RETURN] and then [RETURN] or [STOP ■] to exit.

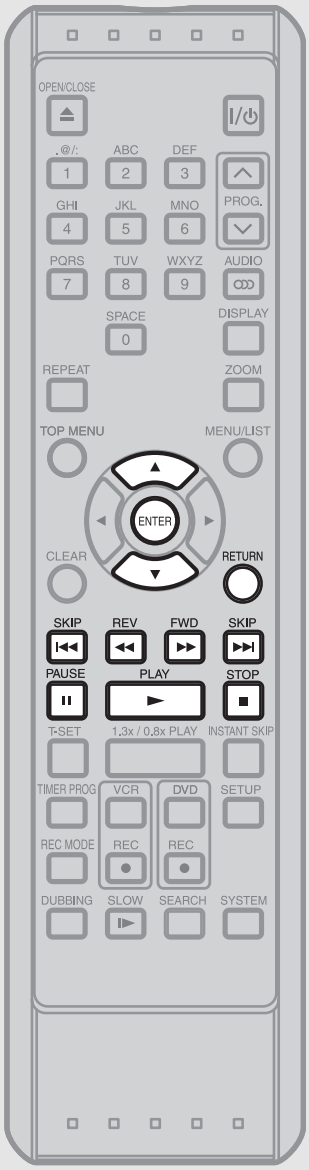
Writing to the disc starts.
It may take awhile to write the data onto a disc.

Note

• You cannot select "Scene Delete" if the number of chapter markers in the Original or Playlist is more than 900.

Dividing a title

DVD-RW VR PL

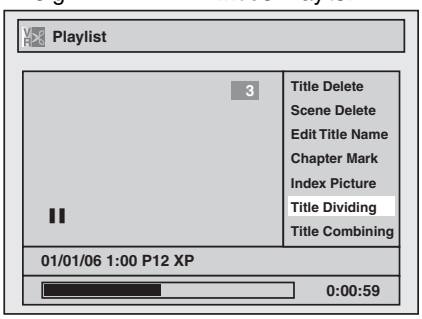


You can divide a title into two new titles.

1 **Follow steps 1 to 3 on page 92 to display the Edit menu.**
Edit menu will appear.

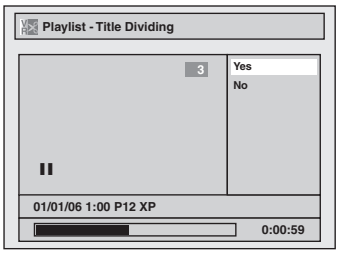
2 **Use [SKIP ⏮◀◀ / ▶▶⏭], [REV ◀◀], [FWD ▶▶], [PLAY ▶] and [PAUSE ❚❚] to find the point where you wish to divide the title. Select "Title Dividing" using [▲ / ▼], then press [ENTER].**

<e.g. DVD-RW VR mode Playlist>



Confirmation window will appear.

3 **Select "Yes" using [▲ / ▼], then press [ENTER].**
The title is divided into two new titles with the same title names.
The thumbnail you set is reset to the first picture of each title.



"Wait for a moment." will appear and the operation may take awhile to be completed.

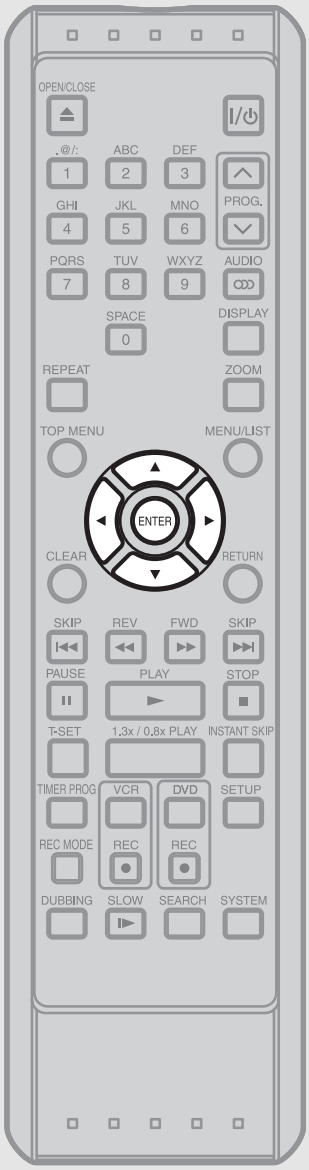
4 **Press [RETURN] or [STOP ■] to exit.**
Writing to the disc starts.
It may take awhile to write the data onto a disc.

Notes

- If a disc contains the maximum number of recordings (99), you cannot divide any titles.
- You cannot divide the titles if the total number of the chapters have already reached 999.

Combining titles

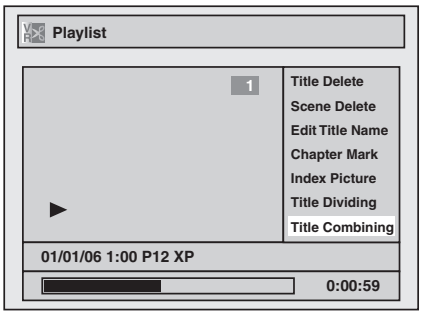
DVD-RW VR



You can combine two titles into a single title.

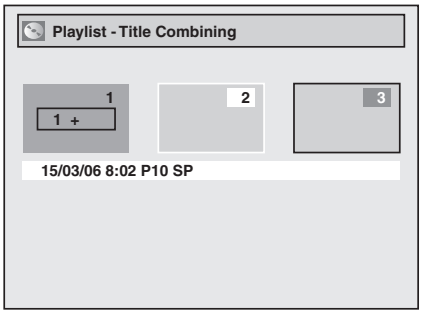
1 **Follow steps 1 to 3 on page 92 to display the Edit menu.**
Select "Title Combining" using [▲ / ▼], then press [ENTER].

<e.g. DVD-RW VR mode Playlist>



Title Combining setting window will appear.

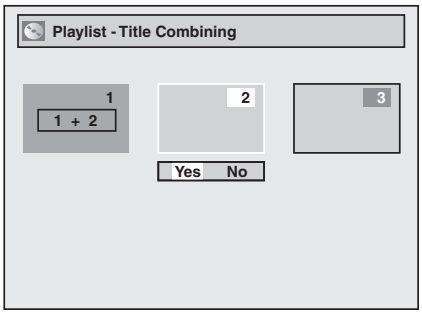
2 **Select another title to combine using [▲ / ▼ / ◄ / ►], then press [ENTER].**



Confirmation window will appear.

3 Select “Yes” using [◄ / ►], then press [ENTER].

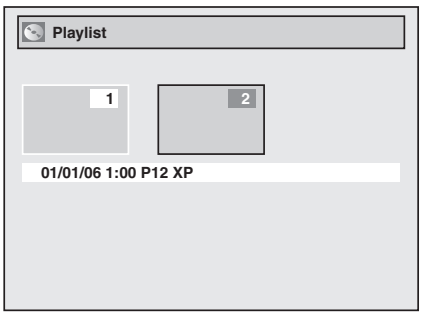
Two titles will combine into a single title.



“Wait for a moment.” will appear and the operation may take awhile to be completed.

4 Press [RETURN] or [STOP ■] to exit.

Writing to the disc starts.
It may take awhile to write the data onto a disc.

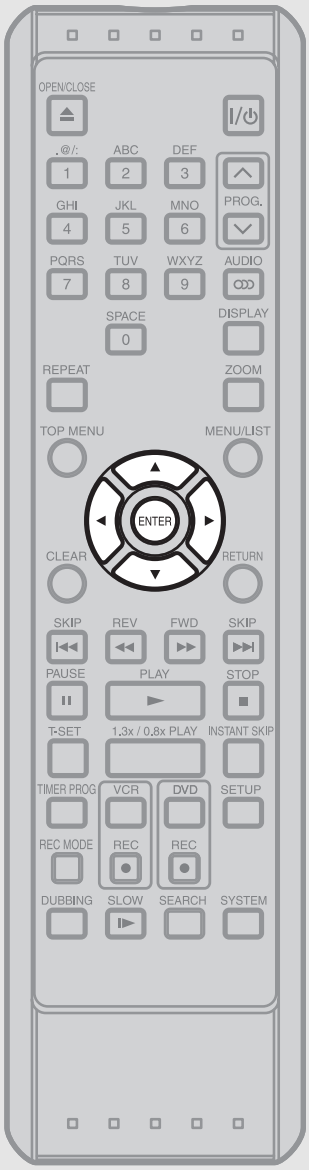


Notes

- You cannot select the same title twice and combine it into a single title.
- If either one of the two original titles is deleted, the combined new title is also deleted.

Adding titles to a Playlist

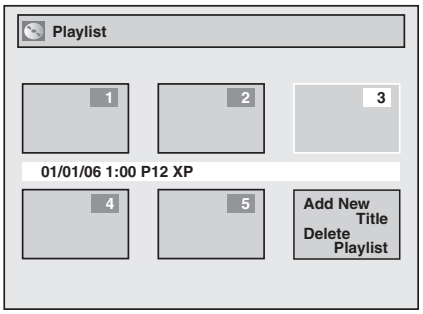
DVD-RW VR PL



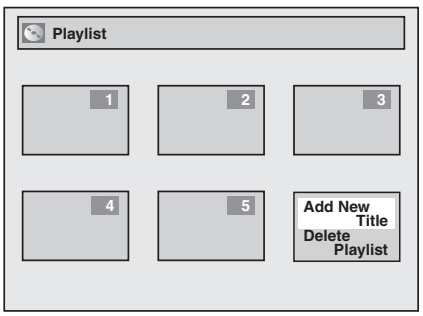
You can add a title in the Playlist as you prefer.
You can add up to 99 titles to a Playlist.

1 **Follow step 1 on page 92 to display the Playlist.**

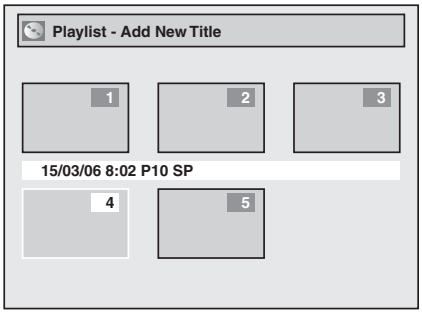
2 **Using [▲ / ▼ / ◄ / ►] to go to the last title, "Add New Title" and "Delete Playlist" is shown.**



3 **Select "Add New Title" using [▲ / ▼], then press [ENTER].**



4 Select the desired title using [▲ / ▼ / ◄ / ►], then press [ENTER].



"Wait for a moment." will appear and the operation may take awhile to be completed.

The added title will appear as the final title.

5 Press [RETURN] or [STOP ■] to exit.

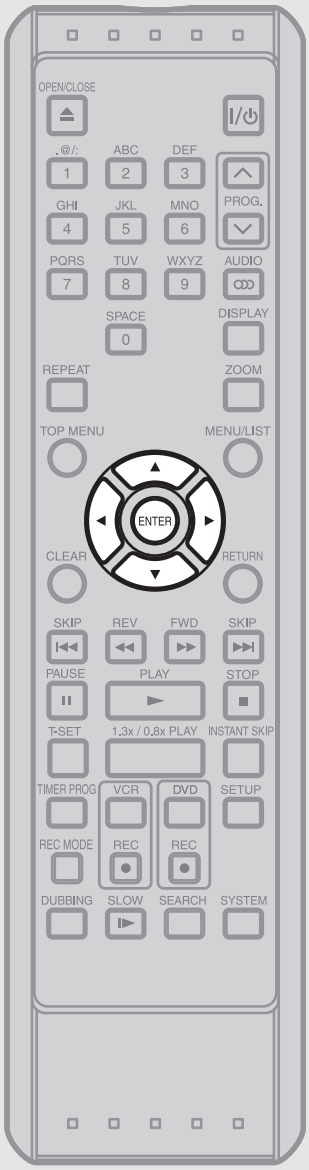
Writing to the disc starts.
It may take awhile to write the data onto a disc.
To delete a title from the Playlist, refer to "Deleting titles" on page 92.
To delete all titles in the Playlist, refer to "Erasing all Playlist" on page 108.

Note

• When a Playlist contains more than 99 titles, or more than 999 chapters, "Add New Title" cannot be selected.

Erasing all Playlist

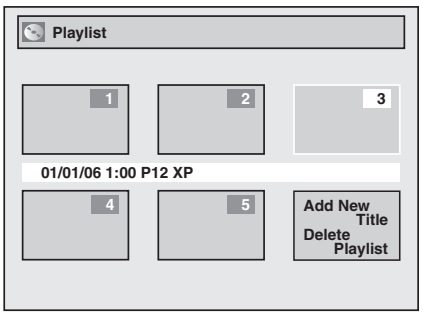
DVD-RW VR PL



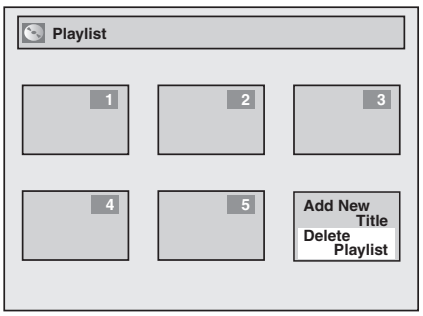
You can erase all titles in the Playlist.

1 **Follow step 1 on page 92 to display the Playlist.**

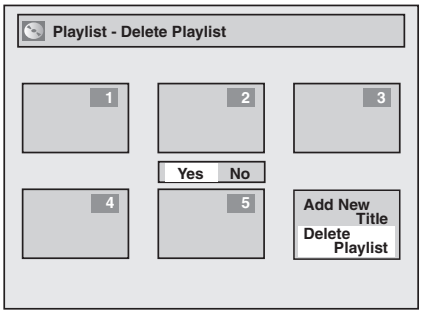
2 **Using [▲ / ▼ / ◄ / ►] to go to the last title, "Add New Title" and "Delete Playlist" is shown.**



3 **Select "Delete Playlist" using [▲ / ▼], then press [ENTER].**



4 Select “Yes” using [◄ / ►], then press [ENTER].



“Are you sure?” will appear.

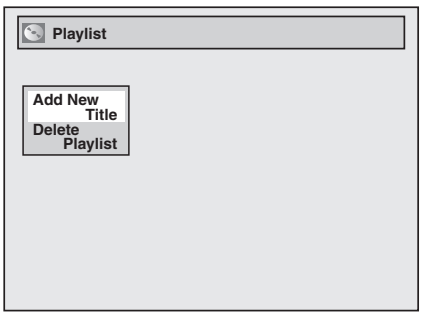
5 Select “Yes” using [◄ / ►], then press [ENTER].

All titles in the Playlist are deleted.

“Wait for a moment.” will appear, and the operation may take awhile to be completed.

6 Press [RETURN] or [STOP ■] to exit.

Writing to the disc starts.
It may take awhile to write the data onto a disc.



Note

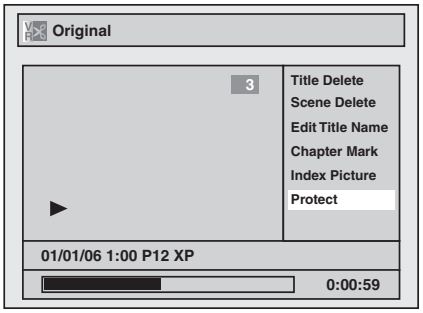
• Deleting all Playlist will not increase the available recording time on disc.

Setting or releasing the title protection

DVD-RW VR ORG

To prevent accidental editing or erasing the titles, you can protect them from the Original menu.
You can cancel the title protection feature after it is applied.

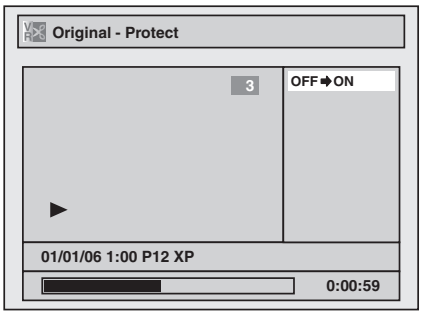
1 Follow steps 1 to 3 on page 92 to display the Original menu. Select "Protect" using [▲ / ▼], then press [ENTER].



Option window will appear.

- If the title is protected, icon will appear on the Original title.

2 Confirm the indication "OFF ➡ ON". Press [ENTER].



- If the title is already protected, "ON ➡ OFF" will appear. If you press [ENTER], the title will be released from protection.
- The icon will appear on the title in the Original title.

"Wait for a moment." will appear and the operation may take awhile to be completed.

3 **Press [RETURN] and then [RETURN] or [STOP ■] to exit.**

Writing to the disc starts.
It may take awhile to write the data onto a disc.

To protect the whole disc (DVD-RW VR mode Only):

Select “Disc Protect OFF ➡ ON” from the Disc menu, then select “Yes”.

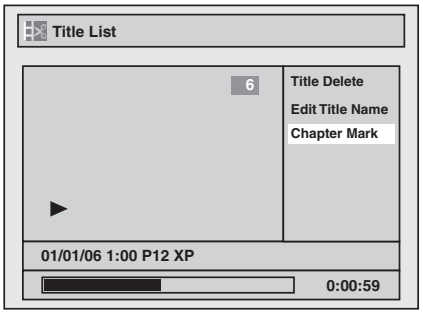
Refer to “Setting disc protection” on page 62.

Setting or clearing all the chapter marks in one title

DVD-RW VIDEO

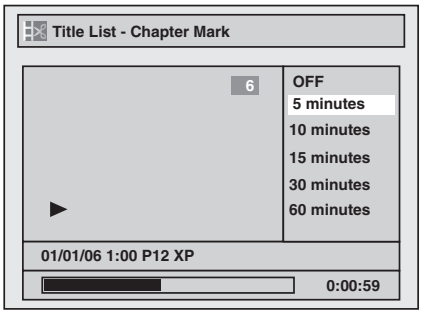
You can insert chapter marks at a specified time you selected for titles with more than 5 minutes. Once a chapter is marked, you can use it for the chapter search feature.

1 **Follow steps 1 to 3 on page 92.**
Select "Chapter Mark" using [▲ / ▼], then press [ENTER].



Option window will appear.

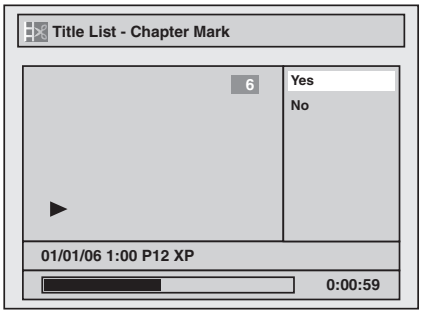
2 **Using [▲ / ▼], select desired time period.**
Press [ENTER].



Confirmation window will appear.

3 Select “Yes” using [▲ / ▼], then press [ENTER].

If you select “OFF” at step 2, all the chapter marks are erased.



This operation may take awhile to be completed.

Chapter marks are added.

4 Press [RETURN] and then [RETURN] or [STOP ■] to exit.

Writing to the disc starts.

It may take awhile to write the data onto a disc.

Notes

- You cannot select a chapter marker interval that exceeds the length of a title.
- The length of chapters may slightly deviate from the one specified at step 2.
- A chapter marker may be delayed depending on the recording content.

Function Setup

You can change the default settings to customize performance to your preference.

- **Tour of the Setup menu**
- **Function Setup**

Tour of the Setup menu

The following table shows the items you can set and their default settings.
Use the table as a reference for efficient operation.

Setup menu	Menu items (highlight is the default)		Function
1.Language setting ➔ Pages 118-119	Disc Menu Language	English Other	Sets the disc menu language.
	Audio Language	Original English Other	Sets the audio language.
	Subtitle Language	OFF English Other	Sets the subtitle language.
2.Display setting ➔ Pages 119-120	Angle Icon	ON OFF	Sets the multi-angle icon display to on or off.
	Screen Saver	OFF 5 minutes 10 minutes ⋮	Sets the idling time before the screen saver starts.
	FL Dimmer	Auto Bright Dark	Sets the front display brightness.

Setup menu	Menu items (highlight is the default)		Function
3.Audio setting ➔ Pages 120-122	Digital Out	PCM 48kHz 96kHz	Sets whether sound recorded at 96 kHz is down sampled to 48 kHz or not.
		Dolby Digital PCM Stream	Sets the digital audio output signal specification.
		MPEG PCM Stream	Sets the digital audio output signal specification.
		DTS ON OFF	Sets whether DTS signal is output or not.
	Dynamic Range Control	ON OFF	Compresses the sound volume range.
4.Parental setting ➔ Pages 122-123	Parental Lock	All 8 7 ⋮	Sets the DVD parental control level.
	• Change password		Sets and changes the password.
5.Video setting ➔ Pages 124-125	Still Mode	Auto Field Frame	Sets the type of still image in pausing playback.
	TV System	PAL Auto	Sets the TV system.
	Video Out	SCART (RGB) Component Progressive (P) Component Interlace (I)	Sets the video output mode.

Note

• Changes you have made to the Setup menu remain even after the unit is switched to standby mode or the disc tray is opened.

Function Setup

Language setting

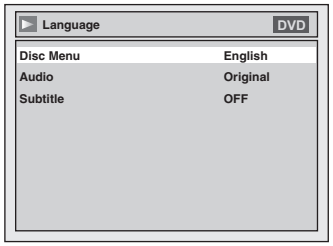
1) In stop mode, press [SETUP].

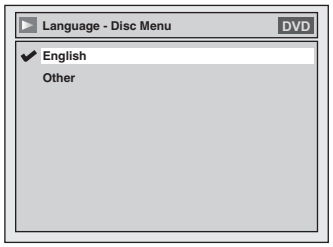
2) Select "Playback" using [▲ / ▼], then press [ENTER].
Playback menu will appear.

3) Select "Language" using [▲ / ▼], then press [ENTER].
Language menu will appear.

4) Select the desired item using [▲ / ▼], then press [ENTER].

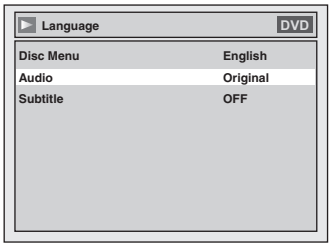
Disc Menu Language (Default : English)
Set the Disc Menu language.





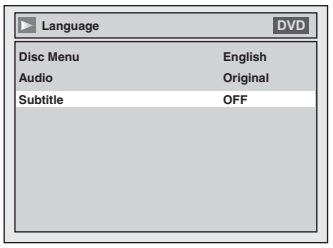
• Select a setting using [▲ / ▼], then press [ENTER].
Your setting is activated.

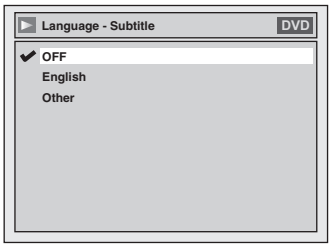
Audio Language (Default : Original)
Set the Audio language.



• Select a setting using [▲ / ▼], then press [ENTER].
Your setting is activated.
If "Original" is selected, the audio language is the default of the inserted disc.

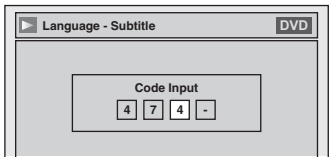
Subtitle Language (Default : OFF)
Set the Subtitle language.





• Select a setting using [▲ / ▼], then press [ENTER].
Your setting is activated.

If "Other" is selected, enter the appropriate 4-digit code using [the Number buttons].
Refer to "Language code" on page 137.



- **When you finish entering the code, press [ENTER].**

5) Press [SETUP] to exit.

Notes

- You can also change or switch off the subtitles on a DVD from the disc menu if it is available.
- Press [CLEAR] or [◀] to erase numbers entered incorrectly at step 4.
- You can only select the languages supported by the inserted disc.
- The Audio Language setting may not be available for some discs.

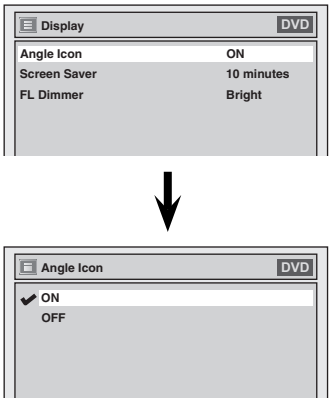
Display setting

1) In stop mode, press [SETUP].

2) Select "Display" using [▲ / ▼], then press [ENTER].
Display menu will appear.

3) Select the desired item using [▲ / ▼], then press [ENTER].

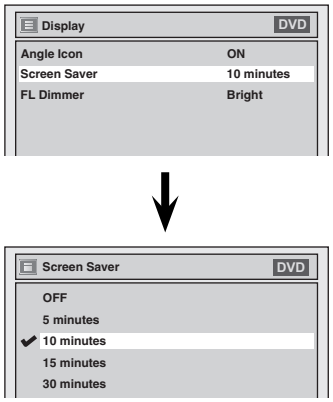
Angle Icon (Default : ON)
Set the angle icon.



- **Select a setting using [▲ / ▼], then press [ENTER].**
  Your setting is activated.

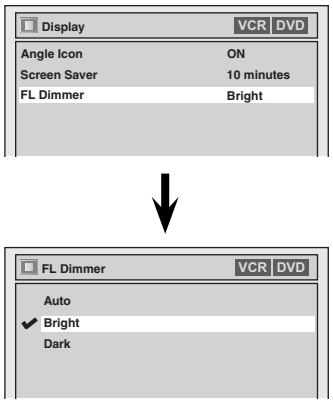
(Continued)

Screen Saver (Default : 10 minutes)
Set the screen saver time delay.



- **Select a setting using [▲ / ▼], then press [ENTER].**
  Your setting is activated.

FL Dimmer (Default : Bright)
Set the front panel display brightness.



- **Select a setting using [▲ / ▼], then press [ENTER].**
  Your setting is activated.
- If "Auto" is selected, the display gets dark when the power is off.

4) Press [SETUP] to exit.

Audio setting

Choose the appropriate Audio settings for your equipment.
This will only affect DVDs playback.

1) In stop mode, press [SETUP].

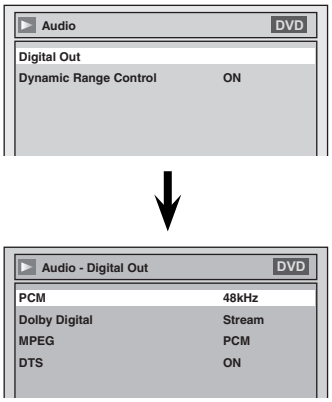
2) Select "Playback" using [▲ / ▼], then press [ENTER].
Playback menu will appear.

3) Select "Audio" using [▲ / ▼], then press [ENTER].

4) Select the desired item using [▲ / ▼], then press [ENTER].

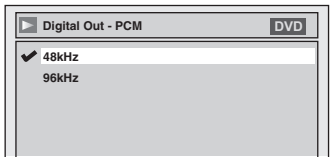
Note
- The Dynamic Range Control function is available only on discs recorded in the Dolby Digital format.

Digital Out
Set the digital audio output.



- **Select a setting using [▲ / ▼], then press [ENTER].**
  Proceed with either of the following steps.

A PCM sampling (Default: 48kHz)



- **Select a setting using [▲ / ▼], then press [ENTER].**

Your setting is activated.

48kHz : If your amplifier / decoder is NOT compatible with 96 kHz PCM, select “48kHz”. Sound recorded at 96 kHz is down sampled to 48 kHz.

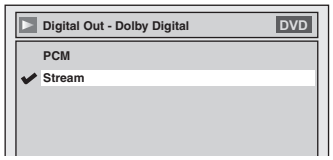
96kHz : If your amplifier / decoder is compatible with 96 kHz PCM, select “96kHz”. Sound is sampled at 96 kHz.

Note

When playing back a disc with copyright protection:

- Even if you select “96kHz”, the sound is down sampled to 48 kHz.

B Dolby Digital conversion (Default: Stream)



- **Select a setting using [▲ / ▼], then press [ENTER].**

Your setting is activated.

PCM : Converts the Dolby Digital into PCM (2 channel).
If your amplifier / decoder is NOT compatible with Dolby Digital, set to “PCM”.

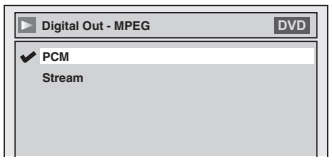
Stream : Outputs Dolby Digital signals.
If your amplifier / decoder is compatible with Dolby Digital, set to “Stream”.

Note

When playing back a DVD-RW disc recorded in VR mode:

- If the audio source on a disc is in Dolby Digital format, set “Dolby Digital” to “PCM” so that you can switch to main audio (L), sub audio (R), or a combination of both (L / R) using your amplifier / decoder.

C Settings for MPEG (Default: PCM)



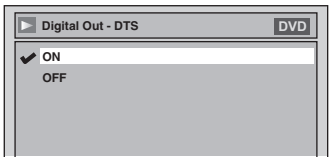
- **Select a setting using [▲ / ▼], then press [ENTER].**

Your setting is activated.

PCM : Converts MPEG into PCM.
If your amplifier / decoder is NOT compatible with MPEG, set to “PCM”.

Stream : Outputs MPEG Audio signals.
If your amplifier / decoder is compatible with MPEG, set to “Stream”.

D Settings for DTS (Default: ON)



- **Select a setting using [▲ / ▼], then press [ENTER].**

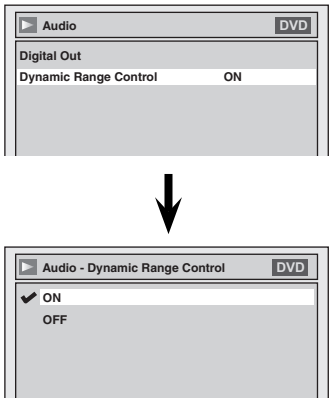
Your setting is activated.

ON : Outputs DTS signals.
If your amplifier / decoder is compatible with DTS, set to “ON”.

OFF : No DTS signal is output.
If your amplifier / decoder is NOT compatible with DTS, set to “OFF”.

(Continued)

Dynamic Range Control (Default : ON)
Set to "ON" to make the dynamic range narrower.



- **Select a setting using [▲ / ▼], then press [ENTER].**
  Your setting is activated.
  The Dynamic Range Control function is effective only with analogue audio connection.

5) Press [SETUP] to exit.

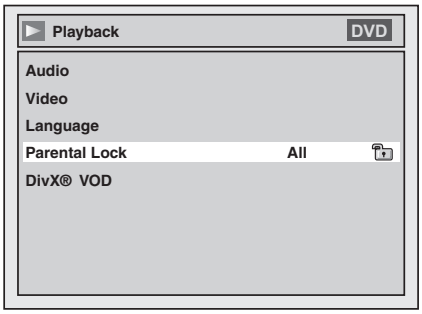
Parental setting

Some DVD-Videos feature a Parental Lock function. If the rating of the inserted disc exceeds the level you set, playback will stop. You must enter a password before the disc plays back. This feature prevents your children from viewing inappropriate material.

1) In stop mode, press [SETUP].

2) Select "Playback" using [▲ / ▼], then press [ENTER].
Playback menu will appear.

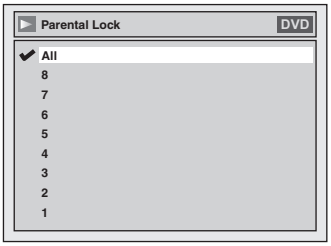
3) Select "Parental Lock" using [▲ / ▼], then press [ENTER].



Notes
- The parental lock function may not be available on some discs.
- It may be difficult to determine if some DVDs support the parental lock function. Be sure to confirm that the parental lock function operates in the way that you have set.
- Record the password in case you forget it.

4) Change the Parental Lock level using [▲ / ▼], then press [ENTER].

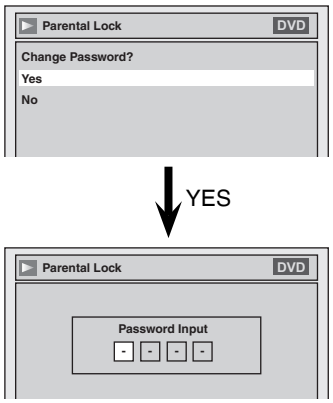
Parental Lock (Default : All)
Set the Parental Lock level.



Parental level

All	: All parental locks are cancelled.
8	: Virtually all DVD software of any grade (adult / general / children) can be played back.
7 to 2	: Only DVD software intended for general use and children can be played back.
1	: Only DVD softwares intended for children can be played back.

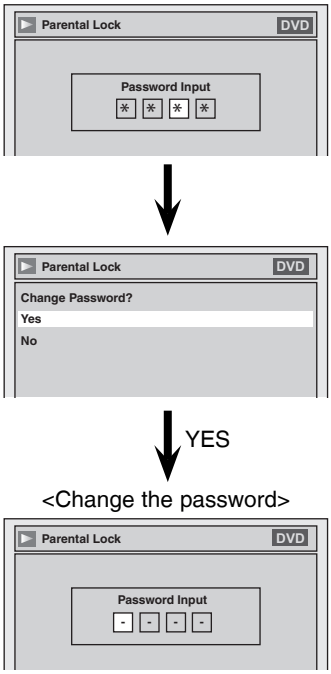
A A password is not yet set



- **Select "Yes" using [▲ / ▼], then press [ENTER]. Enter a new password using [the Number buttons], then press [ENTER].**
  Your setting is activated.
  If you select "No", proceed to step 5.

B A password is already set

- **Enter the current password using [the Number buttons].**



- **Select "Yes" using [▲ / ▼], then press [ENTER]. Enter a new password using [the Number buttons], then press [ENTER].**
  Your setting is activated.
  If you press [ENTER] without entering a password, you can set without a password.
  If you select "No", proceed to step 5.

5) Press [SETUP] to exit.

- If the rating set is lower than the disc rating, a message may appear. Select "YES" if you want to continue playback, and input the password followed by [ENTER] if a password is set previously.
- **If there is a DVD disc inside this unit when you set the parental lock, press [OPEN/CLOSE ⏏] to activate the parental lock level.**

Notes

- Press [CLEAR] to erase numbers entered incorrectly.
- If you forget your password or you want to clear all settings in Parental Lock, enter [4], [7], [3], [7] using [the Number buttons] at the option window. Your password is cleared and parental levels are set to "All".

Still Mode setting

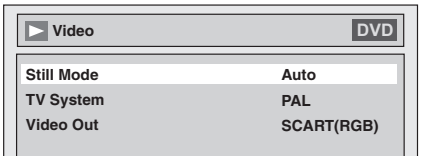
"Auto" has been selected as the default.

1) In stop mode, press [SETUP].

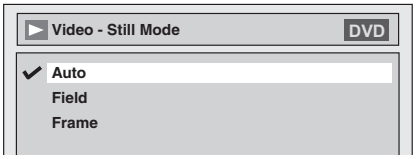
2) Select "Playback" using [▲ / ▼], then press [ENTER].
Playback menu will appear.

3) Select "Video" using [▲ / ▼], then press [ENTER].
Video setting menu will appear.

4) Select "Still Mode" using [▲ / ▼], then press [ENTER].



5) Selecting a setting using [▲ / ▼], then press [ENTER].
Your setting is activated.



Auto : Automatically select the best resolution setting ("Frame" or "Field") based on the data characteristics of the pictures.
Field : Select "Field" when the pictures are still unstable even if "Auto" is selected. "Field" stabilizes the pictures, although the picture quality may become coarse due to the limited amount of data.
Frame : Select "Frame" to display relatively motionless pictures in higher resolution. "Frame" improves the picture quality, although it may unstabilize the pictures due to simultaneous output of two Field data.

6) Press [SETUP] to exit.

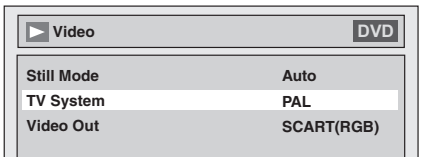
Note
- An individual picture on TV screen is called as Frame, which consists of two separate images called as Field. Some pictures may be blurred at the "Auto" setting in still mode due to their data characteristics.

TV system setting

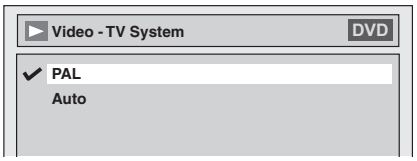
"PAL" has been selected as the default.

1) Follow steps 1 to 3 in "Still Mode setting" to display the Video setting menu.

2) Select "TV System" using [▲ / ▼], then press [ENTER].



3) Select the desired system setting using [▲ / ▼], then press [ENTER].
Your setting is activated.



PAL : Outputs a modified PAL signal for viewing discs recorded with the NTSC system on a PAL system TV.
Auto : Changes the video system (PAL / NTSC) automatically according to the format of the inserted disc.

4) Press [SETUP] to exit.

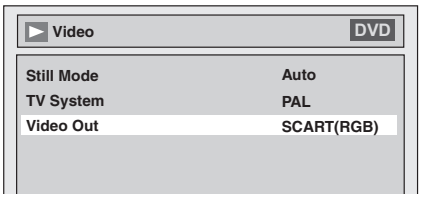
Notes
- With discs recorded using the PAL system, a PAL signal is output for viewing on a PAL system TV.
- Discs recorded with the PAL system cannot be viewed on an NTSC system TV.
- With discs recorded using the NTSC system, an NTSC signal is output for viewing on an NTSC or Multi system TV.
- With discs recorded using the NTSC system, select PAL to view on a PAL system TV.

Video Out setting

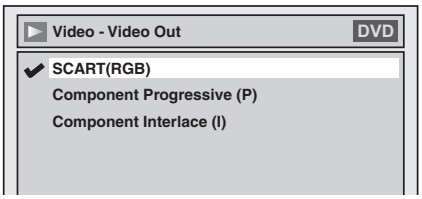
This unit is compatible with the Progressive Scan System. The feature provides you with the higher definition images than the traditional output system does. To utilize this feature, you must set Video Output mode in the Setup menu by following the steps below. “SCART (RGB)” has been selected as the default.

1) Follow steps 1 to 3 in “Still Mode setting” on page 124 to display the Video setting menu.

2) Select “Video Out” using [▲ / ▼], then press [ENTER].

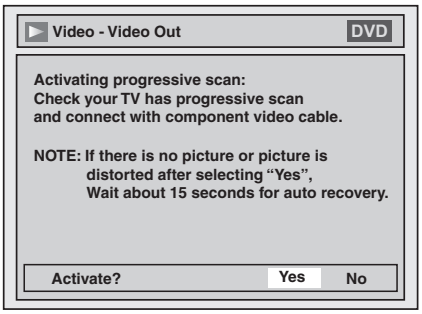


3) Select the desired item using [▲ / ▼], then press [ENTER].



- If you select “Component Progressive (P)”, proceed to step 4.
- If you select “SCART (RGB)” or “Component Interlace (I)”, proceed to step 6. Your setting is activated.
- Refer to page 26 for more details.

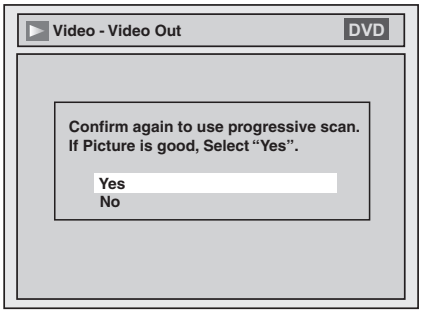
4) Using [◄ / ►], select “Yes”. Press [ENTER].



Final confirmation window will appear.

5) Using [▲ / ▼] to select “Yes”. Press [ENTER] within 15 seconds.

- “P.SCAN” appears on the front panel display. Your setting is activated.



6) Press [SETUP] to exit.

Notes

- If your TV is compatible with Progressive Scan (625p / 576p), you must use the Component Video cable (commercially available) to connect this unit to the TV. (Refer to step 3.) Make sure the “P.SCAN” appears on the front panel display.
- When changing the Video Out setting (“SCART (RGB)”, “Component Interlace (I)” or “Component Progressive (P)”), connect to a VIDEO jack or an S-VIDEO jack on the TV. If the setting is changed, for example, to “SCART (RGB)” while the COMPONENT VIDEO OUT jacks are used to connect to the TV, a distorted video signal may be output.

Symbols in this Section

The following icons show the playable tapes for each function described on this section.

VCR : VHS tapes
Use only cassettes marked VHS (VHS) on

Most instructions are based on remote control operation, unless otherwise noted. You can use the buttons on the remote control as well as those on the main unit when they have the same function.

VCR functions

Play your favourite contents.

- **VCR functions**

VCR functions

Playback

VCR

1) Press [I/⏻ ON/STANDBY] to turn on the unit.

To play back a tape, turn on the TV and be sure to select the input to which the unit is connected.

2) Press [VCR].

3) Insert a prerecorded tape, then press [PLAY ▶] to begin playback.

4) During playback, press [PAUSE ❚❚].
Playback will be paused and sound will be muted.

5) Press [PLAY ▶] to resume playback.

6) Press [STOP ■] to stop playback.

7) Press [OPEN/CLOSE ⏏] to eject the tape.

Notes
- When a tape without record tab is inserted, the unit will start playback automatically.
- Tracking will be automatically adjusted upon playback. To adjust the tracking manually, press [PROG. ∧/∨].

Recording and One-touch Timer Recording (OTR)

VCR

Basic Recording

Before recording, make sure:
- The desired channel is selected by pressing [the Number buttons] or [PROG. ∧/∨].
- There is a tape with a record tab in the unit.
- The desired recording mode is selected in SP (standard play) or LP (long play) mode by pressing [REC MODE].

Tape speed	Recording / Playback Time		
Type of tape	E60	E120	E180
SP mode	1 hour	2 hours	3 hours
LP mode	2 hours	4 hours	6 hours

• Refer to page 49 for instructions on timer recording.

1) Turn on the unit and insert a recordable tape.
Make sure that the TV input is set on the unit.

2) Press [VCR].

3) Select the recording mode using [REC MODE].
- The desired recording mode is selected in SP (standard play) or LP (long play) mode by pressing [REC MODE].

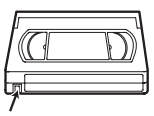
4) Select the desired channel to record using [PROG. ∧/∨] or [the Number buttons].

5) Press [REC ●] (VCR) to start recording.
To temporarily stop recording or to resume it, press [PAUSE ❚❚]. After the unit has been in pause mode for 5 minutes, it will stop automatically to protect the tape and the video head from damage.

6) Press [STOP ■] when the recording is completed.

Accidental erasure prevention

To prevent accidental recording on a recorded cassette, remove its record tab. To record on it later, cover the hole with cellophane tape.



Record tab

One-touch Timer Recording

This feature allows you to set the recording length simply by pressing [REC ●] (VCR).

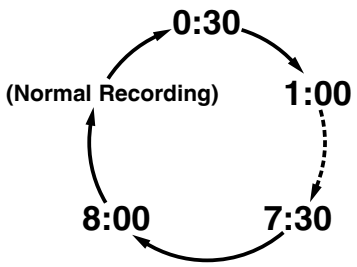
1) Turn on the unit and insert a recordable tape.
Make sure that the TV input is set on the unit.

2) Press [VCR].

3) Select the recording mode using [REC MODE]. (See page 128.)

4) Select the desired channel to record using [PROG. ∧/∨] or [the Number buttons].

5) Press [REC ●] (VCR) repeatedly until the desired recording time (30 minutes to 8 hours) appears on the TV screen.
One-touch Timer Recording will start.



- When the unit reaches the specified time, it will be turned off automatically.
- To change the recording length during One-touch Timer Recording, press [REC ●] (VCR) repeatedly until the desired length appears.
- To cancel One-touch Timer Recording within the specified time, press [STOP ■].

Notes
- The remaining recording time will appear on the TV screen during One-touch Timer Recording. Press [DISPLAY] to see it on the TV screen.
- If VCR One-touch Timer Recording is completed during DVD playback or recording, the VCR will be in stop mode and the DVD keeps the current mode.
- You cannot use the pause function during One-touch Timer Recording.
- When One-touch Timer Recording is finished and the power is turned off, the unit will switch to the timer-standby mode automatically if a timer recording has been programmed. Press [T-SET] to cancel the timer-standby mode to use the unit continuously.

Search

VCR

Index search

1) Press [VCR].

2) Press [SEARCH] so that the index search menu appears.

3) Enter the number of recordings you wish to skip using [the Number buttons] within 30 seconds.

4) Press [FWD ▶▶] or [REV ◀◀] to start index search.
If you want to go in the forward direction, press [FWD ▶▶].
If you want to go in the reverse direction, press [REV ◀◀].
After index search, the VCR will play back the tape automatically.

Notes
- This function is not available during recording.
- Every time a tape is recorded, an index mark is written on the tape.
- You can skip the index mark up to 20.

Time search

This feature allows you to go to a specific point on a tape by entering the exact amount of time you wish to skip in order to reach the point.

1) Press [VCR].

2) Press [SEARCH] repeatedly until the time search menu appears.

3) Enter your desired time to skip using [the Number buttons] within 30 seconds.

4) Press [FWD ▶▶] or [REV ◀◀] to start time search.
If you want to go in the forward direction, press [FWD ▶▶].
If you want to go in the reverse direction, press [REV ◀◀].
After time search, the unit will play back the tape automatically.

Notes
- This function is not available during recording.
- Press [STOP ■] to stop the search.
- If the tape reaches the end during the search, this unit will cancel the search and rewind the tape.
- You can set the time up to 9:59.

Other operations

VCR

Press [VCR] first.

To cue or review picture during playback (Picture Search):

Press [FWD ▶▶] or [REV ◀◀] during playback.
Press it again and the unit will search in super high speed.

To freeze the picture on TV screen during playback (Still mode):

Press [PAUSE ❚❚]. Each time you press the button, the picture will be advanced frame by frame.
If the picture begins to vibrate vertically during the still mode, stabilize the picture by pressing the [PROG. ∧/∨].
If the picture is distorted or rolling vertically, adjust the vertical hold control on your TV, if equipped.

Counter Reset:

Press [CLEAR].

To play back in slow motion:

Press [SLOW ❚▶] during playback or the still mode.
If the noise bars appear on the TV screen, you can reduce it by pressing [PROG.∧/∨].

Notes

- Still / Slow / Pause mode will be automatically cancelled after 5 minutes to prevent damage to the tape and the video head.
- To resume playback from the Picture Search / Still / Slow mode, press [PLAY ▶].

Hi-Fi Stereo Sound System

This unit will record and playback Hi-Fi stereo sound. This unit will receive stereo and bilingual broadcasts and it is possible to record in several ways and to play back the sound.

Selecting the Sound Mode:

You can select each mode by pressing [AUDIO] on the remote control. Each mode is indicated on the TV screen as following.

- During reception of bilingual broadcasts

Mode	Audio output	Display on the TV screen
Main	Main audio from the both speakers	Main
Sub	Sub audio from the both speakers	Sub
Main / Sub	• Main audio from the left speakers • Sub audio from the right speaker	Main / Sub

Notes

- If you play back non-Hi-Fi tapes, the unit will play back automatically in monaural even if you select any mode.
- If the stereo signal becomes weak, the broadcast is automatically recorded in monaural.

Others

- Troubleshooting
- Language code
- Glossary
- Specifications

Troubleshooting

Before requesting service for this unit, check the list below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment by you may eliminate the problem and restore correct operation.

Power

■ **The power does not turn on.**
- Check the mains cable is connected securely.
- Check the breaker (in case of power failure).

Picture

■ **There is no picture.**
- Check signal cables are connected securely.
- Check if a connecting cable is damaged.
- If the Setup menu display appears, press [SETUP] or [RETURN] to turn off the display.
- Check connections to your TV. (See page 26.)
- Check if the Video Out mode is set correctly according to your TV. (See page 26.)
- Switch the input selector on your TV (to “AV1” for example) until a picture appears on the screen.

■ **Picture noise appears.**
- The disc / tape is dirty or flawed.
- If the unit is connected to your TV via a VCR, or if it is connected to a combination TV / VIDEO player, the copy-protection signal applied to some DVD programmes could affect picture quality. If you still experience this problem even when you connect the unit directly to your TV, try connecting the unit to your TV’s S-VIDEO input.

■ **TV programme picture does not fill the screen.**
- Set channels with “Auto Tuning” from the screen menu. (See page 31.)
- Select the channel of a TV programme using [PROG. ∧/∨].

■ **TV programme pictures are distorted.**
- Adjust the direction of the TV antenna.
- Adjust the picture. (See the TV instruction manual.)
- Place the antenna and the TV farther apart.
- Separate any bunched antenna cables and the TV.

■ **TV channel cannot be changed.**
- Switch the TV input.
- Check if the antenna cable is connected correctly. (See page 26.)

■ **Playback picture is distorted**
- Do not bring equipment that may cause electrical interference, such as a cellular phone, near the unit.

■ **The playback picture or TV programme from equipment connected through the unit is distorted.**
- If a DVD player, VCR or tuner is connected to your TV via the unit, the copy-protection signal applied to some programs could affect picture quality. Disconnect the playback equipment in question and connect it directly to your TV.

Sound

■ **There is no sound.**
- The disc / tape is dirty or flawed.
- Check if all cables are connected securely.
- Check if a connecting cable is damaged.
- Check the connections to the amplifier input.
- Check if the input source setting on the amplifier is correct.
- Check if the recorder is in Pause mode or in Slow-motion Playback mode.
- Check if the recorder is in Fast Forward or Fast Reverse mode.
- If the audio signal is not output from the DIGITAL AUDIO OUT (COAXIAL) jack, check the Audio setting. (See pages 120-121.)

■ **Sound is noisy.**
- The disc / tape is dirty or flawed.

Remote control

■ **The remote control does not function.**
- Batteries are exhausted.
- There are obstacles between the remote control and the unit.
- The remote control is too far from the unit.
- There are no batteries in the remote control.
- The unit is not turned on.
- The remote control is not pointed at the remote sensor on the unit.

Playback (DVD)

■ The unit does not play back the disc.
- ● No disc is inserted.
- ● A blank disc is inserted.
- ● The disc is upside down. Insert the disc with the labeled side facing up.
- ● The disc is not correctly inserted.
- ● The unit cannot play back certain discs (such as a CD-ROM). (See pages 10-11.)
- ● The region codes on the DVD-Video and the unit are not matched. (See page 11.)
- ● Moisture has condensed inside the unit. Remove the disc and leave the unit turned on for about two hours until the moisture evaporates. (See page 4.)
- ● The unit cannot play back the disc if it was recorded on another recorder and not finalised. (See page 39.)

■ Playback image freezes for a moment.
- ● During the playback of a two layered disc, the picture may freeze for a moment while playback switches from the first to the second layer. This is not a malfunction.

■ The unit does not play back the disc from the beginning.
- ● Resume playback is activated. (See page 78.) Press [STOP ■] twice.
- ● You have inserted a disc whose Title menu or DVD menu automatically appears on the TV screen when it is first inserted.

■ The unit starts playing back the disc automatically.
- ● The DVD-Video features an auto playback function.

■ Some functions such as Stop, Search, or Slow-motion Playback cannot be performed.
- ● Depending on the disc, you may not be able to perform some of those operations. See the instruction manual supplied with the disc.

■ The language for the sound track cannot be changed.
- ● Multilingual tracks are not recorded on the DVD-Video, DVD-R or DVD-RW being played back.
- ● The DVD-Video prohibits the changing of the language for the sound track.
- ● Try changing the language using the DVD-Video menu.

■ The subtitle language cannot be changed or turned off.
- ● Multilingual subtitles are not recorded on the DVD-Video.
- ● The DVD-Video prohibits changing the subtitles.
- ● Try changing the subtitles using the DVD-Video menu.

■ Angles cannot be changed.
- ● You can change the angle only if the disc contains multi-angle scene. Angles can be changed only when the multi-angle scene appears on the screen.
- ● The DVD-Video prohibits changing angles.
- ● Try changing the angle using the DVD-Video menu.

Recording/Timer Recording/Editing

■ The channel cannot be changed from the channel you are recording.
- ● Set the TV input to “TV”.

■ Recording does not start immediately after pressing [REC ●] (DVD).
- ● An unused DVD-R or DVD-RW was inserted. It takes awhile for the unit to automatically format a DVD-RW.

■ Nothing was recorded even though you set the timer setting correctly.
- ● There was a power failure during recording.
- ● The unit’s internal clock stopped due to a power failure that lasted for more than 30 seconds.
- ● Reset the clock. (See page 33.)
- ● Unplug the mains cable from the AC outlet and plug it in again.
- ● The programme contains copy protection signals that restricts copying.
- ● The timer setting overlapped with another setting that was set later or has priority.

■ Recording does not stop immediately after you press [STOP ■].
- ● It will take a few seconds for the unit to send data to disc before recording can stop.

■ Timer Recording does not complete or does not start from the beginning.
- ● The timer setting overlapped with another setting that has priority. (See pages 54-55.)
- ● There was not enough disc space.

■ Timer recording is impossible.
- ● Make sure ◷ indicator appears on the front panel display of this unit. If not, press [T-SET].

Others

■ **The unit does not operate correctly.**

- If static electricity or anything else causes the unit to operate abnormally, unplug the mains cable and plug it in again.

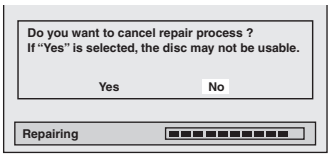
■ **The disc tray does not open when you press [OPEN/CLOSE ▲].**

- It may take a few seconds for the disc tray to open after you have recorded or edited a disc.
- The unit is sending data to the disc.

■ **"Repairing" appears on the display.**

- If a power failure occurs or the mains cable is unplugged during recording, finalising, formatting or editing (even after "Wait for a moment." message disappeared), a repairing process will begin automatically when the unit is turned on next time. It may take several minutes up to about four hours.

■ **In a case you intend to cancel the Repairing process.**



- If you intend to cancel the Repairing process, press [▲ (OPEN/CLOSE)] on the front panel, then select "Yes" with [◄ / ►] and press [ENTER]. After that, the disc tray will automatically open. **In case the Repairing process is cancelled, the disc MAY NOT work.**

VCR

■ **Picture noise appears.**

- Adjust tracking control for better picture by pressing [PROG. ∧/∨] while you are playing back a videotape.
- Head cleaning for VCR may be necessary. Refer to "AUTO HEAD CLEANING" on page 5.

■ **The unit does not play back the tape.**

- No videotape is inserted.

■ **Recording does not start immediately after pressing [REC ●] (VCR).**

- Make sure the videotape has a record tab when you record to a videotape. If needed, cover the hole with cellophane tape.

■ **The remote control does not function.**

- Check if a videotape is in the unit. Press [VCR], then try again.

■ **The motor rotates even when playback / recording is stopped.**

- The motor may rotate for the duration of approximately 5 minutes for efficient operation. This is not a malfunction.

* If the above remedies do not solve the problem, please call an authorized service centre.

Error message

Error message	Cause	Solution
Disc Error --- Please eject the disc. --- Playback feature may not be available on this Disc.	• An unplayable disc is inserted in the unit. • The disc is upside down.	• Insert a standard disc shown in “Choosing a disc”. (See page 10.) • Insert the disc with the labeled side facing up.
Region Error --- Please eject the disc. --- Playback is not authorized in your region.	• Playback is not authorized in the region of the DVD-Video that you inserted in the unit.	• Insert a DVD-Video with region codes 2 or ALL.
Parental Lock On The current selected parental level prohibits playback.	• The current selected parental level in the Setup menu prohibits playback.	• Check the “Parental setting”. (See pages 122-123.)
Recording Error This program is not allowed to be recorded.	• The recording function encountered the copy prohibited programme. • Original source is in NTSC system.	• You cannot record copy prohibited programmes.
Recording Error This program is not recordable in Video mode.	• You are trying to record a copy-once programme onto a DVD-RW disc in Video mode.	• Set “Format Mode” to “VR mode” (see pages 40-41).
Recording Error Can not record on this disc.	• You are trying to record onto a disc which is unrecordable, or whose status does not satisfy recording requirements. • The disc is dirty. • The disc is damaged.	• Insert a recordable disc, and ensure the disc status satisfies the recording requirements (see page 10). • Clean the disc with a cleaning cloth. • Replace the disc.
Recording Error This program is not allowed to be recorded on this disc.	• You are trying to record a copy-once programme onto a DVD-RW disc that is not compatible with CPRM.	• Insert a ver. 1.1 or ver. 1.2 DVD-RW disc (compatible with CPRM.)
Recording Error This disc is protected and not recordable.	• You are trying to record onto a disc that is set as protected in the Setup menu.	• Cancel the disc protection setting in the Setup menu. (See page 62.)
Recording Error Disc is full. (No area for new recording)	• You are trying to record onto a disc that has no space for recording.	• Insert a recordable disc with enough recording space. • Delete unnecessary titles from an Original list. (See pages 92-93.)
Recording Error You cannot record more than 99 titles on one disc. (The maximum is 99)	• You are trying to record onto a disc on which the number of recorded titles has reached the maximum (99).	• Delete unnecessary titles (see pages 92-93).

Troubleshooting (cont'd)

Error message	Cause	Solution
Recording Error You cannot record more than 999 chapters on one disc. (The maximum is 999)	• You are trying to record onto a disc on which the number of recorded chapters has reached the maximum (999).	• Delete unnecessary chapter marks from an Original list. (See pages 97-98.)
Recording Error You cannot record on this disc as Control Information is full.	• This disc has no space to write Control Information when recording or deleting contents. • When editing has been repeatedly performed, the control information area may become full even though the recording area has enough space.	• Delete unnecessary titles (see pages 92-93).
Recording Error You cannot record on this disc as Power Calibration Area is full.	• When recordings are performed repeatedly onto an unstable disc, this area may become full. • Every time you insert a disc for recording, part of the disc's working area will be used. • If you repeat this frequently, it will be used up quicker and you may not be able to record full 99 titles.	• Insert a new disc.
Recording Error This disc is already finalised.	• You are trying to record onto the disc already finalised.	• Undo the finalisation of the disc (see page 64).

* If you are still having trouble with the unit after checking all the Troubleshooting points, write down the error code and the error description and consult your dealer or an authorized service centre.

Language code

Language	Code
Abkhazian	4748
Afar	4747
Afrikaans	4752
Albanian	6563
Amharic	4759
Arabic	4764
Armenian	5471
Assamese	4765
Aymara	4771
Azerbaijani	4772
Bashkir	4847
Basque	5167
Bengali;Bangla	4860
Bhutani	5072
Bihari	4854
Bislama	4855
Breton	4864
Bulgarian	4853
Burmese	5971
Byelorussian	4851
Cambodian	5759
Catalan	4947
Chinese	7254
Corsican	4961
Croatian	5464
Czech	4965
Danish	5047
Dutch	6058
English	5160
Esperanto	5161
Estonian	5166
Faroese	5261
Fiji	5256
Finnish	5255
French	5264
Frisian	5271
Galician	5358
Georgian	5747
German	5051
Greek	5158
Greenlandic	5758
Guarani	5360
Gujarati	5367
Hausa	5447
Hebrew	5569
Hindi	5455

Language	Code
Hungarian	5467
Icelandic	5565
Indonesian	5560
Interlingua	5547
Interlingue	5551
Inupiak	5557
Irish	5347
Italian	5566
Japanese	5647
Javanese	5669
Kannada	5760
Kashmiri	5765
Kazakh	5757
Kinyarwanda	6469
Kirghiz	5771
Kirundi	6460
Korean	5761
Kurdish	5767
Laothian	5861
Latin	5847
Latvian; Lettish	5868
Lingala	5860
Lithuanian	5866
Macedonian	5957
Malagasy	5953
Malay	5965
Malayalam	5958
Maltese	5966
Maori	5955
Marathi	5964
Moldavian	5961
Mongolian	5960
Nauru	6047
Nepali	6051
Norwegian	6061
Occitan	6149
Oriya	6164
Oromo (Afan)	6159
Panjabi	6247
Pashto; Pushto	6265
Persian	5247
Polish	6258
Portuguese	6266
Quechua	6367
Rhaeto-Romance	6459
Romanian	6461

Language	Code
Russian	6467
Samoan	6559
Sangho	6553
Sanskrit	6547
Scots Gaelic	5350
Serbian	6564
Serbo-Croatian	6554
Sesotho	6566
Setswana	6660
Shona	6560
Sindhi	6550
Singhalese	6555
Siswat	6565
Slovak	6557
Slovenian	6558
Somali	6561
Spanish	5165
Sundanese	6567
Swahili	6569
Swedish	6568
Tagalog	6658
Tajik	6653
Tamil	6647
Tatar	6666
Telugu	6651
Thai	6654
Tibetan	4861
Tigrinya	6655
Tonga	6661
Tsonga	6665
Turkish	6664
Turkmen	6657
Twi	6669
Ukrainian	6757
Urdu	6764
Uzbek	6772
Vietnamese	6855
Volapuk	6861
Welsh	4971
Wolof	6961
Xhosa	7054
Yiddish	5655
Yoruba	7161
Zulu	7267

Glossary

■ Analogue audio

An electrical signal that directly represents sound. In contrast, digital audio can also be an electrical signal, but is an indirect representation of sound. See also “Digital audio” on the right.

■ Aspect ratio

The width of a TV screen relative to its height. Conventional TVs are 4:3 (i.e., the screen is almost square). Widescreen models are 16:9 (the screen is almost twice as wide as its height).

■ Chapter

Just as a book is split up into several chapters, a title on a DVD disc is usually divided into chapters. See “Title” on page 139.

■ INSTANT SKIP

This unit can skip TV commercials during DVD Video playback. Once [INSTANT SKIP] is pressed, the start point will be set forward 30 seconds and playback resume automatically. (You can press [INSTANT SKIP] up to 6 times.)

■ Component video output

Each signal of luminance(Y) and component (P_B/C_B, P_R/C_R) is independent to output so that you can experience picture colour as it is.
Also, due to compatibility with progressive video (625p/576p), you can experience higher-density picture than that in interlace (625i/576i).

■ CPRM (Content Protection for Recordable Media)

CPRM is a scrambling copy protection system for the protection of “copy-once” broadcast programmes (e.g. some satellite broadcasts).

■ Digital audio

An indirect representation of sound using numbers. During recording, the sound is measured at discrete intervals (44 or 100 times a second for CD audio) by an analogue-to-digital converter, generating a stream of numbers. On playback, a digital-to-analogue converter generates an analogue signal based on these numbers. See “Sampling frequency” on page 139 and “Analogue audio” on the left.

■ Dolby Digital

A system developed by Dolby Laboratories that compresses digital sound. It works with stereo (2ch) or multi-channel audio.

■ DTS (Digital Theater System)

DTS is a Multi-channel surround sound system, but it is different from Dolby Digital. Both formats were developed by Digital Theater Systems, Inc.

■ Finalise

To make DVDs that have been recorded playable in other DVD, finalise DVD-R/DVD-RW discs with this unit.

■ JPEG (Joint Photographic Experts Group)

JPEG is a method of compressing still image files. You can copy JPEG files on CD-R/RW discs from a computer and play back the files on this unit.

■ MP3 (MPEG Audio Layer 3)

MP3 is a method of compressing files. You can copy MP3 files on CD-R/RW discs from a computer and play back the files on this unit.

■ PBC (Video CD only) (Playback Control)

This function enables you to play back interactive software using a menu screen. See also “Title” on page 139.

■ PCM (Pulse Code Modulation)

PCM is a format that converts audio into digital data. It is mainly used for Audio CDs and DAT. This unit can play back sounds as realistic as possible by converting even compressed Dolby Digital and MPEG audio to PCM.

■ Playlist

From this list you can play back the contents of a disc in your desired order or in sequence. It is also possible to directly search for a specific scene.

■ Progressive Scan (625p/576p)

A type of display that does not split each frame into fields, and instead scans directly through all the scanlines of each frame in order. Progressive Scan provides less flickering and higher image resolution than traditional (625i/576i) TV signals. Refer to page 26 and 125 for instructions on the Progressive Scan mode selection.

■ Region code

Regions associate discs and players with particular areas of the world. This unit will only play back discs that have compatible region codes. You can find the region code of your unit by looking on the rear panel. Some discs are compatible with more than one region (or all regions).

■ Sampling frequency

The rate at which sound is measured by a specified interval to turn it into digital audio data. The number of samples in one second is defined as the sampling frequency. The higher the rate is, the better the possible sound quality.

■ S-Video output

Video is output as the individual signals of colour (C) and luminance (Y), so a higher-quality picture will be displayed.

■ Title

(DVD)
A collection of chapters on a DVD. See “Chapter” on page 138.

(Video CD)
The contents of a Video CD. When playing back a Video CD with the PBC function, the Title menu will appear automatically.

■ Track

Audio CDs and Video CDs use tracks to divide the contents of a disc. The DVD equivalent is called a chapter. See also “Chapter” on page 138.

Specifications

General

■ **System**
DVD-Video, DVD-R/RW, CD-DA, CD-R/RW, VCD, Video Cassette Tape

■ **VCR video heads**
Four heads

■ **Power requirements**
220–240V~ ± 10%, 50Hz ± 0.5%

■ **Power consumption**
35W (standby: 5.0W)

■ **Weight**
4.3kg

■ **Dimensions (width x height x depth)**
435 x 99.5 x 268mm

■ **Operating temperature**
5ºC to 40ºC

■ **Operating humidity**
Less than 80% (no condensation)

■ **TV format**
PAL - I

Recording

■ **Recording format**
Video Recording format (DVD-RW only), Video format (DVD-RW, DVD-R)

■ **Recordable discs**
DVD-Rewritable, DVD-Recordable

■ **Video recording format**
Sampling frequency : 13.5MHz
Compression format : MPEG

■ **Audio recording format**
Sampling frequency : 48kHz
Compression format : Dolby Digital

Tuner

■ **Receivable channels**
IRA - E69

Input/Output

Front Panel : (AV3)

■ **Video input**
One RCA connector
Input level : 1Vp-p (75Ω)

■ **S-Video input**
One Mini DIN 4-pin jack
Input level : Y (luminance) 1Vp-p (75Ω)
C (colour) 300mVp-p (75Ω)

■ **Audio input**
Two RCA connectors
Input level : 2Vrms (input impedance: more than 10kΩ)

Rear Panel :

■ **VHF/UHF antenna input/output terminal**
VHF/UHF set 75Ω

■ **Audio input /output**
Two 21-pin scart sockets (AV1, AV2)

■ **Video input /output**
Two 21-pin scart sockets (AV1, AV2)
Input /output level : 1Vp-p (75Ω) each

■ **S-Video output**
One Mini DIN 4-pin jacks
Input /output level :
Y (luminance) 1Vp-p (75Ω)
C (colour) 300mVp-p (75Ω)

■ **Component video output**
Three RCA connectors
Output level : Y: 1.0Vp-p (75Ω)
P_B/C_B, P_R/C_R: 0.7Vp-p (75Ω) each

■ **Audio output**
Two RCA connectors
Output level :2Vrms (output impedance: ≃680Ω)

■ **Digital audio output**
One Coaxial pin jack
Output level : 500mVp-p (75Ω)

Note
The specifications and design of this product are subject to change without notice.